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ABSTRACT

This report on Compensatory Education (CE) examines the effect of home environment on academic achievement. Part one presents findings on the home environment and student achievement, parental awareness and participation in CE, parental involvement in the educational process, parent attitudes toward the child's education, school CE fund receipt status, and the student's relationship to the Title I allocation criteria. In part two, scores on achievement tests of vocabulary, reading comprehension, math concepts, and math computation are studied in relation to combinations of social, demographic, and economic characteristics. The third part is a series of tables and figures which present the detailed data upon which most of the analyses in this report are based. (Author/JCD)

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REPORT #4:
STUDENT HOME ENVIRONMENT, EDUCATIONAL ACHIEVEMENT, AND COMPENSATORY EDUCATION

Ronald H. Hinckley, Editor
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TECHNICAL REPORT #4 FROM THE STUDY OF THE SUSTAINING EFFECTS OF COMPENSATORY EDUCATION ON BASIC SKILLS

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A PRECIS OF THE SUSTAINING EFFECTS STUDY AND AN OVERVIEW OF THE PRESENT VOLUME

The Sustaining Effects Study

In response to questions about education policies, SDC has studied compensatory education (CE); its nature, quantity, and environent; its sustained effects; and its generality, in a large study called: The Sustaining Effects Study. This thorough study will result in a series of reports from the following substudies:

The Longitudinal Study. In the Longitudinal Study, the educational achievements of children will be assessed in the fall and spring for three consecutive years. The children will take an achievement test in reading and mathematics, a functional literacy test, and a measure of attitude toward school and toward themselves as students. The amount and nature of instruction in reading and mathematics will be determined for each student four times during the school year. In addition, teachers and principals will report on their practices of instruction and teaching. Thus, it will be possible not only to assess student growth over a three-year period, but to relate this growth to the kinds and amounts of instruction being received.

The schools in the study were drawn from three different groups. The **Representative Sample** of schools is a sample carefully drawn to represent all of the nation's public schools having some of the grades one through six. A second group of schools, the **Comparison Sample,** is composed of schools that have large proportions of students from poor homes but do not receive special funds to offer CE services. The third group is the **Nominated Sample,** composed of schools nominated because their educational programs had promise of being effective for low-achieving students. During the first year of the study, data were collected from 328 schools and about 118,000 students.

The Cost/Effectiveness Study. Information is being obtained on the resources and services to which each student is exposed during reading and mathematics instruction. Cost estimates will be generated on the basis of this information. Because the effectiveness of the instructional programs is to be determined in the Longitudinal Study, it will then be possible to relate the effectiveness to the cost of each program.

The Participation Study. The purpose of the Participation Study is to determine the relationships among economic status, educational need, and instructional services received. The educational achievement of the students and the services they receive will be obtained in the Longitudinal Study, but the refined measures of economic status will be obtained in the Participation Study. A random sample of over 15,000 students was drawn from the schools in the first-year **Representative Sample** and visits were made to the homes of these students. During the visits, information was collected on the economic level of the home and on the parents' attitudes toward their children's school and learning experiences. Thus, the level of student achievement and services received can be related to the economic level of the home from which the student comes.

The Summer Study. The Sustaining Effects Study also examines the effectiveness and cost-effectiveness of summer-school programs. RMC Research, responsible for conducting the summer study, is investigating questions about summer school. Information about the 1977 summer school experiences of the SES students is being combined with other SES data. The resource cost model, developed for the regular-year cost-effectiveness studies, is being adapted to the needs of the summer school study.

The Successful Sites Study. This study is to identify and describe the instructional practices and contexts that appear to be effective in raising the reading and math achievements of educationally disadvantaged students. In-depth observational and interview data will be collected from approximately 50 schools that are participating in the Sustaining Effects Study.

OVERVIEW OF THE PRESENT VOLUME

This is the fourth technical report in a series emanating from the Study of the Sustaining Effects of Compensatory Education (CE) on Basic Skills. It is divided into three parts. Part I presents findings on the home environment and student achievement, parental awareness of and participation in CE, parental involvement in the educational process, parental satisfaction with the child's education, school CE fund receipt status, and the student's relationship to the Title I allocation criteria. In Part II, scores on achievement tests of vocabulary, reading comprehension, math concepts, and math computation (the four sub-scales of the Comprehensive Tests of Basic Skills for reading and math) are studied in relation to combinations of social, demographic and economic characteristics. The third part of the report is a series of tables and figures providing the reader access to some of the detailed information generated by the Participation Study. These tables and figures are divided into two appendices (A and B) that present detailed data upon which most of the analyses in the report are based. Part I and Part II need not be read in sequence. Additionally, with Chapter 1 as an introduction, attention may be focused on Chapters 2, 3, or 4, independent of the order of presentation. For better comprehension, however, the chapters in Part II should be read in conjunction with one another.

THE PRINCIPAL RESEARCH VARIABLES CONSIDERED IN THIS REPORT

Three types of variables are described in the following paragraphs: those based on widely accepted poverty criteria or tested achievement scales (e.g. Family Economic Status, Achievement); those based on simple linear combinations of questions from the Participation Study that have been empirically tested against achievement scores (e.g. Parental Involvement, Homework Activities, etc.); and those describing a state or condition of the family, the child or the child's school (e.g. Student CE Selection Status, School CE Receipt Category).

Family Economic Status is defined in terms of those students counted or not counted as economically eligible under the current Title I allocation criteria. Students from families whose 1976 income falls below the official poverty level or who receive AFDC payments, are counted as falling into the poverty category. Institutionalized, neglected, or delinquent children, or foster children attending public schools are also included. By using the allocation

criteria, these students number nearly 4.2 million and make up nearly 21 percent of the student population in grades one through six.

Achievement is defined in terms of the Comprehensive Tests of Basic Skills (CTBS) for math and reading. Percentile scores developed especially for this study are used, and are usually presented in terms of a quartile distribution. Raw score data have also been used in Part I after they have undergone z transformations to allow for comparisons of relative standings across grades. In Part II, standardized differences (gaps) between achievement levels for various groups are presented in a way that permits their comparison across both reading and math content areas and grade levels.

Student CE Selection Status is a variable that identifies those students who have been selected to participate in a Title I or non-Title I CE program. Overall, about 2.6 million students are selected for Title I reading, and 1.4 million for Title I math programs. Another 2.2 million students are selected for non-Title I-funded CE services in reading, and 1.9 million in math. Altogether, about 25 percent of the population are selected for some form of reading or math CE (15% for Title I reading and/or math selectees). This variable is used primarily for classification purposes.

School CE Receipt Category is a variable that identifies whether a student attends a school receiving Title I funds (and possibly Other CE funds: 62% of the Participation Study sample fall into this category), a school that receives Other CE funds only (26%), or a school that does not receive any CE funds (12%). This variable is used exclusively for classification purposes.

Parental Involvement in a child's education is measured by a four-point scale: very low, low, medium, and high. Very low parental involvement exists where no parent-teacher conference is held during the school year, when no one in the family helps out or works at the child's school, and no adult family member attends extra-school activities. High involvement exists when at least one parent-teacher conference is attended by both parents, at least one parent helps out or works at school, and when an adult family member attends extra-school activities. About 10 percent of the families in the sample have very low parental involvement, 35 percent low involvement, 42 percent medium involvment and 14 percent high involvement.

Homework Activities is a variable measured separately for reading and math. A student's score on this variable is determined by how often he/she brings home schoolwork, how much time is spent on homework, how often he/she gets help with homework, and who helps with homework. This scale is negatively related to achievement; the less homework activity in reading and math, the higher the reading and math achievement scores. A four-point scale is used to differentiate among students in reading homework. About one-fourth (24%) are very low, indicating that they do not bring home schoolwork very often, receive no help in doing the work they do bring home, and do not spend much time per day on schoolwork. At the other extreme, 22 percent of the sample bring home schoolwork frequently, are helped (not necessarily by parents), and spend a lot of time per day on homework. A five-point scale is used to differentiate between students in math homework. An additional question concerning the father's role adds to the definition of homework activity. When a father helps his child

with math, achievement is significantly higher than where no help is offered by the father. Therefore, the students receiving help from their fathers are placed in the very low category on the math homework scale (the scale is negatively related to math achievement) and is made up of only 10 percent of the sample. In all other respects, this category resembles very low homework activity for reading (math homework is brought home infrequently and little time is spent on it when it is brought home). Twelve percent (12%) of the sample are at the very high end of the homework activities scale for math, with the remainder evenly divided between low (25%), medium (27%), and high (27%).

Another key variable in the analysis of the home environment is the child's *Reading Behavior.* The highest score on this four-point scale indicates the following: the child has more than 30 books that he or she can read in the home; storybooks are preferred to comic or school books; five books or more are brought home from the library every two weeks; the family subscribes to newspapers and magazines; and the child spends more than one hour per day reading. About 19 percent of the sample fall into this category. The low end of the scale includes 23 percent of the population where fewer than 30 books that can be read without help are in the home, children prefer comic books or school books to storybooks, books are not brought home from the library, the family does not subscribe to newspapers or magazines, and the child spends less than one hour a day reading.

A variable measuring a child's *Television-Viewing Behavior* is also used in the analysis. Basically, it is determined by hours spent watching TV and program preference. Children scoring high on the television-viewing behavior scale include those spending 2-1/2 hours or more per day with the television set who indicate a preference for children's shows and cartoons. Students spending less than 2-1/2 hours per day watching television, and who prefer situational comedy, are low on the TV behavior scale. This scale groups behaviors most related to achievement on the high and low extremes. Overall, the scale is negatively related to achievement—those low on the scale are the highest achievers while those with high television-viewing behavior show the lowest achievement. Thirty-one percent (31%) of the sample are in the high-viewing category and 28 percent the low.

Extra-School Activities measures both parent attendance and child participation in extra-school activities such as science fairs and school plays. Eighteen percent (18%) of the parents interviewed indicate that neither they nor their children attend these activities. Another 27 percent say that either the parent attends or the child participates, while a majority of 55 percent states that both the parent and child are involved in these extra-school activities.

Other social, economic and demographic characteristics are analyzed with achievement in Part II. These include the time children spend watching television, the time they spend doing homework, the number of children and adults in the family unit, parental education, Orshansky poverty status, community size (urbanicity), ethnic status, and geographic region.

RESULTS OF THE PARTICIPATION STUDY

Household data were obtained from 14,157 households with children in elementary school. The survey instrument contained 166 informational items. The results of the analysis of the

Participation Study data presented here focus on the relationship between student home environmental and educational achievement. Students are classified according to CE status and economic status. Results also focus on the involvement of parents in the educational process and their awareness of CE in general and Title I in particular. The highlights of each area are reported below.

Student Home Environment and Academic Achievement. A child's score on the out-of-school reading behavior scale is the variable with the strongest and most consistent relationship with reading achievement among all home environment variables. It explains about 16 percent of the difference among students in reading achievement, and is also moderately related to math achievement, accounting for 4 percent of the student differences for the full sample. The variable with the second strongest relationship to reading achievement (6% of the student difference accounted for) and the strongest relationship to math achievement (10% of the difference) is the educational attainment of the head of house. Both of these variables are positively correlated with achievement. In other words, the higher the student's position on the reading behavior scale and/or the higher the level of parental educational attainment, the higher the student's measured reading and math achievement.

Homework activities (measured in terms of frequency of homework, time spent on homework, frequency of help with homework, and who helps with homework as reported by the parents) are negatively related to achievement (both reading and math). The higher a student is on the homework activities scale, the lower his or her achievement score is likely to be. This should not be construed to mean that the more homework a student receives, the lower his or her achievement will be. The scale takes more activities into account than just the amount and frequency of homework assigned and is reflective of what parents perceive to be their children's homework load and not what teachers actually assign. Also, no causal direction is implied. It should be clear that some teachers might assign low achievers more work in an effort to help them catch up.

Ethnic Status, a fourth home-environment variable related to achievement, shows a relatively consistent and strong relationship with reading and math achievement. This variable accounts for more of the difference among students in math achievement than it accounts for in reading achievement. Even so, non-minority students achieve higher scores on reading and math performance tests than minority students.

The remaining home-environment variables (family size, single adult family, parental involvement, head of house's age, TV-watching behavior, extra-school activities, and living quarters) account for very small differences in reading and math achievement. While many of these variables produce a statistically significant relationship with achievement, in practical terms they add very little in explaining the difference among students in reading and math performance.

The relationships of home-environment variables to achievement differ according to the CE selection status of children. They are strongest for those not selected for any CE program, considerably weaker for those selected for programs other than Title I, and weakest for those selected for Title I programs. Even among Title I selectees, however, the child's out-of-school

reading activities, level of homework activities, and ethnic status contribute significantly to reading and math achievement.

Parents and Compensatory Education. Sixty-seven percent (67%) of all parents surveyed were able to correctly indicate whether their children's schools had some form of special class for the educationally disadvantaged. Parents with children in CE programs are most accurate in this assessment, and are generally aware that their children attend special classes. However, the data also suggest a misperception on the part of parents of poor or minority children who attend schools where no CE is present, or whose children have not been selected into a CE program. Indeed, a significantly larger proportion of these parents believe that their children have been selected for CE than the evidence available would indicate. It is possible that these parents were considering special programs that were not considered as compensatory in this study.

Only 40 percent of the parents claim to have heard of Title I and, of these, only 40 percent can correctly describe Title I or give some indication of its purpose. When people think of Title I they most often think of reading programs, and then math programs. Parents whose children have been selected for Title I are generally aware that their children are participating in the program, and they rate these programs as either extremely or as very helpful. This is particularly true for poor parents.

Awareness of Parent Advisory Councils (PACs) is low. Among those parents who claim to be aware of PACs, most cannot name them or have no idea as to their purpose and function. It is estimated that about 14 percent of the parents with children in Title I schools are members of PACs. Another group of between 15 and 20 percent claim to have known of elections for PACs, or to have friends or neighbors who are members.

Parental Involvement. Poor parents are less involved in their children's education than non-poor parents. Further, the data show that for these two economic categories the parents of Title I students are generally less involved than parents of Other CE Only students, who are in turn less involved than parents of non-CE students. Title I selectees, then, when grouped according to economic status, are the students with the least support from the home in terms of parental involvement in education. Hence, if disadvantagement is extended beyond a concept of low achievement and low income to include home environment and low parental involvement in a child's education, then the students selected for Title I are the most disadvantaged in every sense.

Educational Expectations. Poor parents and parents of Title I selectees have lower expectations of the ultimate educational attainment of their children than other parents. Among Title I selectees, however, minority parents have higher expectations than do majority parents that their children will reach some level of college education. When the gender of the child is controlled for, there is no difference in the expectations of parents of male or female CE students. However, for the parents of non-CE students, there is a difference: parents of female students have a slightly lower expectation of their daughters than parents of male students.

Quality of Education. Parents appear to be satisfied with their children's education. When

asked to rate the overall quality, most give it a good rating (53%), and many rate it excellent (32%). However, parents of Title I students are not as enthusiastic, giving the lowest 'excellent' rating of all parents (25%), and the highest fair-poor rating (22%). The highest ratings are given by parents of non-CE selectees. Also, parents of poor children give lower ratings than parents of non-poor children. The lowest overall ratings are given by poor parents of Title I students. This is not, however, reflective of their evaluation of Title I, for they generally perceive these programs as being quite helpful. Parents list the teachers and staff (42%), the location, physical facilities, and transportation (17%), the classroom set-up (10%), and the academic programs (6%) among the things they like most about their children's school. Among the things the parents would like to see changed are the teachers and staff (15%), the facilities and transportation (15%), academic programs (9%), classroom set-up (8%), school organization and administration (7%), and discipline and safety (8%).

Social Differences in Achievement. For all achievement categories, levels of performance varied with ethnic grouping—with proportionately more minority pupils having lower achievement than non-minority pupils. However, the *fanspread* pattern of increasing disparity between majority and minority achievement was not found to be as large after the third grade.

Differences among groups were generally strongest in the vocabulary content area, and weakest in the area of math computation. This is what would be expected given that, of the four areas, vocabulary is most strongly related to out-of-school factors, while computation is most dependent upon specific instruction, and least dependent upon the environment outside the classroom.

Researchers concerned with social-class differences in educational achievement have generally used either an economic or a cultural criterion of socio-economic status. Variables centered in both these traditions were tabulated with ethnic grouping and achievement in Chapter 5. These variables were poverty status (an economic criterion), and maternal educational attainment (a cultural criterion). Of these characteristics, the relationship of maternal education to achievement was strongest. When ethnic grouping is controlled, the maternal education relationship was reduced by 20 percent, while the poverty relationship fell over 40 percent.

Other socio-economic relationships to achievement were compared to that of maternal education, which proved to have the strongest relationship to achievement of any of the variables. Hours of television viewing was about one-third as large. The relationship of urbanization was 75 percent as large (uncontrolled), or 40 percent as large within ethnic groups. Relationships of either the number of children or the number of adults were 25 percent as large within ethnic groups, and 35 to 45 percent as large without that control. Classifying households (into those that did or did not receive welfare payments) resulted in gaps of the same size as the gap between poor and non-poor, but smaller than the gaps found for maternal education.

These results give only a flavor of the findings as reported in the complete text and appendices.

PART I. THE HOME ENVIRONMENT AND EDUCATION

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CHAPTER 1. THE PARTICIPATION STUDY: RESEARCH QUESTIONS AND KEY VARIABLES

This fourth technical report from the Sustaining Effects Study is the final report from the Participation Study. The second technical report (Breglio, Hinckley, and Beal, 1978) addressed congressional concerns about the relationship among family economic status, educational achievement, and selection for Title I and/or Other CE programs. The third technical report (Hinckley, Beal, and Breglio, 1978) reported on the kinds and amounts of educational services actually received by students according to their economic background and CE status. This report focuses on the home. It considers the extent of parental participation in education in general (with Title I services, in particular) and the relationship between student achievement and home environment.

The sample of 14,157 households with children in public elementary schools (grades 1-6) was drawn in a stratified two-stage manner (schools, and students-within-schools) to ensure representation of many different kinds of schools, students, and households. Unlike the other reports using data from the Participation Study, student characteristics are not weighted to approximate national characteristics, although the data reported here are a *reasonable* representation of all U.S. children enrolled in public schools in grades 1 through 6. The complete sampling plan, how it was carried out for both the schools and students, and the various tests for bias are reported in detail in other technical reports (Hoepfner, Zagorski, and Wellisch, 1977; and Breglio, Hinckley, and Beal, 1978).

This report is presented in two parts. Each deals with the home environment and education. In Part I the data are generally presented in terms of CE selection status and CE receipt category. Title I is a principal focus both in terms of student or school CE status and in terms of family economic status where the Title I allocation criteria are used to determine economic need. The issue of CE is not considered in Part II. Rather, relationships are explored among achievement and its interaction with twelve different variables reflecting the home, the out-of-school environment, and the out-of-school pursuits of students.

This report addresses the following questions:

- How is home environment related to student achievement? (Chapters 2, 5 and 6)
- How aware of CE programs are parents? How aware are they of CE generally, and Title I specifically? How involved are parents in Title I programs? (Chapter 3)
- What is the nature and extent of parental involvement in the education of children? Are parents satisfied? (Chapter 4)

The second purpose of this report is to provide the reader with some of the detailed information generated by the Participation Study. To accomplish this, data are presented in tabular and graphic forms, both in the analysis sections and in appendices accompanying the report. The appendices are as follows:

- Appendix A contains tables (bearing data too cumbersome to be included in Chapter

2) which provide detailed information on the results of some of the multiple-regression analyses performed for that chapter.

- Appendix B is a series of tables and figures relating to the analysis related in Part II. The reductionist approach employed in Part II generated numerous tables of data of interest to the reader, but their inclusion would distract from the findings reported in the text. Therefore, they have been assembled in an appendix, and referenced in the text.

One of the principal independent variables for this report is student (family) economic status. This variable was created from data collected early in 1977 in the Household Information Questionnaire (HIQ), which classifies children according to the Title I allocation criteria, as identified in Section 103(c) of Title I of the Elementary and Secondary Education Act, as amended. It includes, as current low-income students, those from families below the poverty level, those from families whose income exceeds the current criteria of poverty but who receive payments under the program of aid to families with dependent children (AFDC), and those living in institutions for the neglected or delinquent, or being supported in foster homes with public funds while attending public schools. About 4.2 million students are classified as current low-income (Poor/AFDC) students, representing about 21 percent of the public elementary school children in grades 1 through 6. Non-poor students number 15.8 million.

Throughout Part I of this report, terms such as "poor students" and "students economically in need" will be used in reference to those who meet current low-income status as determined by Title I allocation criteria. These terms are used for ease of expression, to avoid repeating such phrases as "students whose family economic status is poor" or "students who come from current low-income families."

In Part II of this report, "poor students" refers just to those students from families whose income falls below the federal poverty threshold. Other students counted as poor by Title I allocation criteria (AFDC, foster, neglected or delinquent) are treated as a separate category in Part II.

In this report, student CE selection status is employed as an independent variable. This variable is based on the Compensatory Education Roster (CER), which is completed by local school coordinators for each student. Students were recorded as having been *selected* or *not selected* for reading and/or math compensatory programs under various funding programs. These data were verified by checking information provided in principal and district questionnaires concerning the presence of various types of CE funds in the school or district.

Generally, students are identified as being selected for Title I programs (these include those who may also be selected for Other CE programs) 14 percent of the time, selected for Other CE-funded programs 10 percent of the time, and not selected for any CE programs 76 percent of the time. When the context of the analysis warrants, students are further distinguished as being selected for reading CE or math CE.

Another means of distinguishing among students in this report is by means of the school CE

receipt category. Based on the responses to principal and district questionnaires, each child was identified as either attending a school that received Title I funds (62%), a school that received Other CE funds only (26%), or a school that did not receive CE funds (12%).

The achievement variables employed in the analysis are from the Comprehensive Tests of Basic Skills (CTBS), encompassing math concepts and computations, and reading vocabulary and comprehension. Percentile scores developed especially for this study (the CTBS scaling methods and new conversions are contained in Report #9 of this series, Hemenway, *et al.*, 1978) are sometimes used for both reading and math. Generally, when the percentile distribution is used, it is divided into quarters to facilitate analysis. Raw scores are also used in this analysis.

For the multiple-regression analyses reported in Chapter 2, z transformations of raw scores were made to allow for comparisons of relative standing between grade levels.

In Part II, where the achievement scores on individual tests are analyzed, computations were performed to attempt to remove the effects of the 'level' of a particular test from the comparisons of the groups' achievement levels.

All other variables in the analyses are from the HIQ, with the exception of grade, which comes from the Student Background Checklist (SBC). Specific scales and indices are explained in the chapters where they appear. Other variables are generally self-evident in nature and come from the household interviews conducted with parents of elementary school children.

In summary, this report presents findings relating to the home and the education process. Home relationships with achievement are examined, as well as parental involvement in and satisfaction with the children's educations. The data in Part I differentiate among students according to economic status, CE selection status, and CE school category. In Part II, the emphasis is placed on the individual components of achievement, and the individual components of the home environment, without regard to compensatory education.

CHAPTER 2. HOME ENVIRONMENT AND STUDENT ACHIEVEMENT

The research findings in this chapter describe the relationships between home-environment variables and student achievement (reading and math) for all student households and for Title I selectees in particular. Several facets of the home environment are examined: parent background, student out-of-school activities, and physical environment of the home. No particular theoretical orientation guides the analyses; hence, the findings focus on the extent to which descriptor variables are consistently and meaningfully related to student achievement.

Evidence has accumulated over the last fifteen years to support the argument that there is a relationship between a student's home environment and his academic performance. Debates surrounding the report *On Equality of Education Opportunity* (Coleman, *et al.*, 1966), and others about the relative importance of home-variables *versus* school-variables have been fostered by the fact that these relationships are not simple. They are, moreover, of intense interest to both educators and public policy specialists.

Coleman, *et al.* found that much of the variation in achievement was not accounted for by school factors; large proportions of the variance were accounted for by home-environment variables. Re-analysis of the Coleman data and other studies (Jencks, 1970, and Mosteller and Moynihan, 1972) confirmed the importance of home environment in explaining achievement. Compensatory Education is based in part on the notion that a poor home environment can be compensated for by an enriched school environment. Schools, in this point of view, are expected to make up for home failures to stimulate student achievement. "The sooner the school is able to reach out and shape the child, the better off the child will be." But educational strategies presumed to improve performance, such as increased per-pupil expenditures, reduced class size, improved facilities, ability tracking, etc., may not, in fact, be capable of overcoming the disadvantaged home environment of low-achieving students. It is intended that the focus on home-environment in the Participation Study will allow for tests of the relationships between home environment and student achievement for those targeted for compensatory services—in particular, for Title I selectees.

The Participation Study did not attempt an evaluation of the differences among home environment, school services, curricula, and so forth. Rather, the focus of this effort has been almost exclusively on the student home environment; in particular, the home circumstances of elementary school children selected, and not selected, for some form of CE. Unlike many other attempts to measure home-environment variables, the Participation Study is based on lengthy face-to-face interviews with parents. A sizeable number of household variables, seldom measured or not easily obtained, are available for analysis, e.g., a detailed breakdown of family income by income source, a 36 month employment history of mothers and fathers. The amount of data collected in this study (both in numbers of variables and observations) has engendered some difficult decisions on limiting the size of the analysis.

It must be remembered that this analysis is not a theory-testing nor model-building exercise. Rather, differences in the consistencies and strengths of relationships between student achievement and family-environment variables for CE selectees and non-selectees have been

empirically examined. Further, the attention of the analysis is directed to the relationship of home-environment descriptors to student achievement for poor and non-poor students, minority-majority students, and students at different grade levels. The research questions for this analysis include:

- Are the relationships between home-environment variables and student achievement similar for reading and math?
- How consistent are the relationships between home-environment variables and student achievement among different subgroups, such as Title I selectees, Other CE selectees and non-CE selectees?
- What is the relative importance or strength of different home-environment variables for various student subgroups?
- What are the sets of home-environment variables that differentiate between students with high-achievement and students with low-achievement scores?

The remaining portions of this chapter are divided into sections dealing with: measures of the descriptor variables; an examination of simple relationships between home-environment variables and student achievement; multiple regression analysis for all students—Title I selectees and other subgroups; and last, a more detailed examination of the relationship between a student's non-school activity and achievement.

MEASURES OF THE DESCRIPTOR VARIABLES

There were 242 variables derived from the Participation Study questionnaire. Nearly half focus on family income and provide the required basis for assigning each family unit to a cell in the Orshansky poverty matrix. Most of the remaining questions were designed to assess the following features of a child's home environment:

- Demographic description of the household and the parental backgrounds.
- Parental involvement in school-related activities (including CE program awareness).
- Child's out-of-school reading behavior and homework activity.
- Child's TV behavior and other leisure-time activities.
- Child's extra-school activities.

The relationship of family income to student achievement has been studied in a previous report, (Breglio, Hinckley, and Beal, 1978). Since the inclusion of family income in a multivariate analysis tends to overshadow other descriptor variables, it is used in this analysis as a control variable, dividing families into poor and non-poor subgroups. Other features of a child's home environment receive greater emphasis following this approach. The scales and variables that define these other features are presented in Table 2-1. Each scale is generated from a linear combination of questionnaire responses describing each feature of the home environment. Each response that contributes to a scale was empirically related to reading and

Table 2-1

Descriptor Variables for Analysis

Parent Variables

1. Educational Attainment* (number of school years completed for head of household)
2. Age* (age in years of the head of household)
3. Parental Involvement With Child's School (4 pt. scaled variable)
   1 point scored for each of the following:
   — has at least one parent/teacher conference
   — both parents attend conference
   — one parent helps/works at school
   — one or both parents participate in extra-school activities
   High meets all conditions, Low meets none.

Child Variables

4. Homework Activity - Reading (4 pt. scaled variable)
   1 point scored for each of the following:
   — brings homework home often
   — very frequently gets help with homework
   — spends more time than average student doing homework
   — Mother or Father or both do not assist
   High meets all conditions, Low meets none.
5. Homework Activity – Math (5 pt. scaled variable)
   Very Low — same as above except Father helps
   Very High — same as above except Father does not help
6. Child's Reading Behavior (4 pt. scaled variable)
   1 point scored for each of the following:
   — has more than 30 books that the child can read in the home
   — prefers storybooks to comic or school books
   — brings home more than 5 library books every two weeks
   — family subscribes to newspaper and magazines
   — spends more than 1 hour per day reading
   High meets four or five of the conditions, Low meets one or more.
7. Child's TV Behavior (3 pt. scaled variable)
   1 point scored for each of the following
   — watches more than 2–1/2 hours daily
   — prefers children's shows and cartoons
   High meets both conditions, Low meets none.
8. Extra-school Activities (4 pt. scaled variable)
   4 points scored if both parent and child attend/participate
   3 points scored if just child participates
   2 points scored if just parent attends
   1 point scored if neither parent nor child attend/participate

Background Variables

9. Single-Adult Family
   0 = single-adult family
   1 = two-or-more-adult family
10. Living Quarters
   0 = single-family dwelling
   1 = multiple dwelling
11. Family Size
   Number of persons in family (ranges from 2 to 11 or more)
12. Ethnic Status
   0 = minority group member (Black, Hispanic, American Native, Asian American)
   1 = majority group member (White)

*Father's age and education are used if living with family; else, Mother's age and education are used.

math achievement before it was combined in a linear fashion with responses to other questions to form the scale.

The majority of households in this study represent whites living in single-family dwelling units. The typical family contains five members, and both parents live at home. The adult representing the head of the house is under 40 (37.9) and has a 12th grade education (see Table 2-2 for details).

This brief description of the typical household changes dramatically when families with children selected for Title I participation are highlighted. A majority of homes among this subgroup *deviate* from the typical pattern of a white family living in a single-family dwelling unit where both parents are present. A large percentage of families with children selected for Title I live in multiple-dwelling units, are minority-group members, and have only one parent (generally the mother) living at home. The families are larger (on the average 5.5 members per family) and the average adult representing the head of the house has *less* than 12 years of education.

In addition to family income, several other variables are used to divide the data into important subgroups for the analysis. These include:

- CE Selection Status
  - Selected for Title I
  - Selected for Other CE Only
  - Not Selected for CE
- Grade (years 1 – 6)
- Ethnic Status
  - Minority-Group Member
  - Majority-Group Member

Data for these subgroups as well as for poor/non-poor households, as determined by family income, may be found in Appendix A.

The dependent variables used in the analysis of various relationships are *reading achievement* and *math achievement*, as measured by the CTBS. Before using these two achievement measures, raw scores were transformed into distributions with a mean of zero and a standard deviation of one for each grade level. This transformation allows comparisons of relative standings between different grade levels, which is otherwise not advisable with raw scores.

ANALYSIS OF SIMPLE RELATIONSHIPS

The first analysis of these data consists of an examination of the bivariate relationships among all descriptor variables. Table 2-3 presents the correlation coefficients among the twelve descriptor variables. The top triangular matrix in this table reveals many correlation coefficients that reach statistical significance. Even so, most of these coefficients are small (less than .20). The larger coefficients warrant comment. The largest correlation found in these data (.89)

Table 2-2

Sample Frequencies, Percentages, Means and Standard Deviations for Descriptor Variables

	Frequency	%	Mean	Standard Deviation
Educational Attainment (Head of House)				
8th grade or less (8 years)	2,120	15	12.2 yrs.	3.0 yrs.
9 – 11th grade (9 – 11 years)	2,626	19		
12th grade/High-School graduate (12 years)	4,585	32		
Some college (13-15 years)	2,514	18		
College graduate (16 years)	1,192	9		
Post-Graduate (18 years)	1,058	8		
	14,095	100		
Age (Head of House)				
17 – 24	173	1	37.9 yrs.	8.7 yrs.
25 – 34	5,292	37		
35 – 44	5,997	43		
45 – 54	2,115	15		
55 – 64	441	3		
65 and over	116	1		
	14,134	100		
Parental Involvement				
0 – Very Low	1,131	10	1.5	.8
1 – Low	4,148	35		
2 – Medium	4,930	42		
3 – High	1,607	14		
	11,816	101		
Homework Activities – Reading				
0 – Very Low	3,310	24	1.5	1.1
1 – Low	3,526	25		
2 – Medium	4,157	29		
3 – High	3,114	22		
	14,107	100		
Homework Activities – Math				
0 – Very Low	1,385	10	2.1	1.2
1 – Low	3,483	25		
2 – Medium	3,771	27		
3 – High	3,763	27		
4 – Very High	1,707	12		
	14,109	100		
Child's Reading Behavior				
1 – Very Low	3,161	23	2.4	1.0
2 – Low	4,210	30		
3 – Medium	3,936	28		
4 – High	2,719	19		
	14,026	100		

Table 2-2 (Continued)

Child's TV Watching Behavior				
0 – Low	3,882	28	1.0	.8
1 – Medium	5,624	41		
2 – High	4,381	31		
	13,887	100		
Extra-School Activities				
1 – Neither parent nor child participates	2,574	18	3.0	1.2
2 – Parent participates, not child	3,100	22		
3 – Child participates, not parent	639	5		
4 – Both parent and child participate	7,807	55		
	14,120	100		
Single-Adult Family				
0-One Adult Only	2,507	18	.8	.4
1-Two Adults	11,615	82		
	14,122	100		
Living Quarters				
0-Multiple-Unit Dwelling	2,483	18	.8	.4
1-Single-Family Dwelling	11,654	82		
	14,137	100		
Family Size				
2 Persons	316	2	5.0 persons	1.6 persons
3	1,560	11		
4	4,292	30		
5	3,647	26		
6	2,158	15		
7	1,057	8		
8	547	4		
9	276	2		
10	138	1		
11 or more	154	1		
	14,145	100		
Ethnic Status				
0-Minority Group Member	3,201	23	.8	.4
1-Majority Group Member	10,914	77		
	14,115	100		

is between reading- and math-homework activities. Since reading and math achievement are described separately in the multivariate analysis, reading-homework activity will be used with reading achievement, and math-homework activity with math achievement so that the two indices will never be used in the same analysis. Other large correlations (equal to or greater than .25) reveal the following:

- The educational attainment of the head of the house is positively related to the level of parental involvement with the child's school, the child's out-of-school reading behavior, and the ethnic status of the household. The higher the parent's level of education, the more reported involvement with the child's school, the higher the

Table 2-3

DESCRIPTOR VARIABLES
Correlation Coefficients for All Students (Above Diagonal Line – N=13,458)
Correlation Coefficients for Title I Students (Below Diagonal Line – N=1,368)*

	Head of House's Educational Attainment	Head of House's Age	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)	Child's Reading Behavior	Child's TV-Watching Behavior	Extra-School Activities	Single-Adult Family	Living Quarters	Family Size	Ethnic Status
Head of House's Educational Attainment		−.10	.26	−.13	−.14	.35	−.14	.12	.15	−.16	−.17	.25
Head of House's Age	−.20		.00	.05	.01	.06	−.04	.01	.12	−.13	.16	.00
Parental Involvement	.23	.01		−.12	−.12	.21	−.05	.37	.21	−.16	−.04	.23
Homework Activities (Reading Help)	−.08	.04	−.09		.89	−.04	.01	.00	−.09	.09	.05	−.24
Homework Activities (Math Help)	−.05	−.02	−.09	.90		−.03	.01	.00	−.13	.10	.01	−.22
Child's Reading Behavior	.33	−.03	.23	.00	.02		−.16	.17	.16	−.16	−.09	.23
Child's TV- Watching Behavior	.08	−.02	−.07	.03	.02	−.09		−.04	−.07	.10	.03	−.15
Extra-School Activities	.14	.01	.40	.05	.07	.19	−.01		.08	−.09	−.02	.11
Single-Adult Family	.05	.18	.21	−.09	−.11	.12	−.07	.08		−.35	.16	.29
Living Quarters	−.09	−.18	−.18	.10	.09	.12	.10	−.09	−.38		−.05	−.34
Family Size	−.20	.20	−.04	.05	−.02	−.09	.04	−.03	.17	−.07		−.17
Ethnic Status	.21	.01	.21	−.21	−.18	.22	−.15	.05	.34	−.39	−.16	

*Correlation coefficients for both triangular matrices equal to or greater than .08 are significant at the .01 level

reported level of out-of-school reading behavior, and the higher the likelihood that the parent is white.

- Parental involvement with the school is related to participation in extra-school activities and the ethnic status of the household. The higher the level of parental involvement, the higher the level of extra-school activity and the greater the likelihood that the child is from a majority household.
- Last, the majority ethnic status of the household is negatively related to type of dwelling and family size. Majority households are more likely to have few children and to live in single-family dwellings. Minority households have larger families, and are more likely to live in multiple-family dwellings.

It does not appear that the correlations among the descriptor variables reviewed above seriously distort the multivariate analyses performed on the data. However, when parents' education or ethnic status enter a multivariate equation as descriptors of student achievement, it is less likely that parental involvement, child's extra-school activities, type of dwelling or family size will also contribute significantly to the description.

Correlations for Title I students are presented in the bottom triangular matrix of Table 2-3, and correlations for Other CE and non-CE student subgroups are presented in Table 2-4. While some variation in size of correlation may be observed, the overall pattern of relationships between descriptor variables within these subgroups remains consistent with that for the total sample. In addition to the correlations reported in this section, similar correlation matrices are presented in Appendix A for subgroups of poor and non-poor student households, those in grades one through six, and minority-/majority-student households.

Correlations for each of the descriptor variables with the dependent measures (reading achievement and math achievement) are presented in Table 2-5. In this table, correlation coefficients *failing* to reach a statistically acceptable level of significance ($\rho < .01$) have been identified. Nearly all correlations shown in this table reach significance. Separate data entries are presented in this table for All Students, Title I selectees, those selected for Other CE only, and those not selected for CE (non-CE).

Three descriptor variables—Child's Reading Behavior, Educational Attainment-Head of House, and Ethnic Status—produce large positive correlations with reading and math achievement for the total sample. Across all students, those with higher levels of out-of-school reading activity, those with better-educated parents, and those from non-minority homes achieve higher scores in reading and math.

Out-of-school reading behavior is also correlated with reading and math achievement among Other CE and non-CE student subgroups. This descriptor variable is the best indicator of reading achievement among the Title I selectees, but the strength of the correlation barely reaches significance when its relationship to math achievement is measured. In general, however, out-of-school reading activity is highly correlated with the reading and math achievement of all students.

Table 2-4

DESCRIPTOR VARIABLES
Correlation Coefficients for Other CE Students (Above Diagonal Line – N=1,366)
Correlation coefficients for Non-CE Students (Below Diagonal Line – N=10,218)*

	Head of House's Educational Attainment	Head of House's Age	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)	Child's Reading Behavior	Child's TV-Watching Behavior	Extra-School Activities	Single Adult Family	Living Quarters	Family Size	Ethnic Status
Head of House's Educational Attainment		−.15	.22	−.11	−.07	.36	−.17	.05	.11	−.16	−.26	.32
Head of House's Age	−.06		−.02	.04	−.01	.05	.00	.03	.16	−.11	.16	.02
Parental Involvement	.24	.00		−.07	−.06	.19	−.08	.34	.21	−.16	−.02	.17
Homework Activities (Reading Help)	−.12	.06	−.12		.88	−.01	.11	.03	−.09	.07	.03	−.29
Homework Activities (Math Help)	−.14	.02	−.12	.89		.03	.08	.04	−.14	.07	−.02	−.22
Child's Reading	.31	.09	.19	−.02	−.03		−.18	.05	.14	−.13	−.12	.27
Child's TV–Watching Behavior	−.12	−.06	−.03	−.02	.00	−.15		.01	−.07	.15	.10	−.29
Extra-School Activities	.11	.01	.37	−.01	−.01	.17	−.05		.05	−.09	.01	.06
Single-Adult Family	.15	.10	.20	−.08	−.13	.15	−.05	.08		−.31	.20	.23
Living Quarters	−.15	−.12	−.14	.08	.10	−.15	.09	−.08	−.34		−.04	−.26
Family Size	−.12	.15	−.03	.04	.00	−.06	.00	−.01	.17	−.07		−.17
Ethnic Status	.21	.00	.22	−.23	−.22	.18	−.12	.13	.27	−.32	−.14	

*Correlation coefficients for both triangular matrices equal to or greater than .08 are significant at the .01 level

Table 2-5

Correlation Coefficients for Reading and Math Achievement by All Students and by Student CE Selection Status

	All Students (N=13,458)		Title I (N=1,868)		Other CE Only (N=1,366)		No CE (N=10,218)	
	Reading	Math	Reading	Math	Reading	Math	Reading	Math
Head of House's Educational Attainment	.38	.32	.16	.11	.30	.20	.35	.29
Head of House's Age	.02*	.03*	−.06*	−.01*	−.02*	−.01*	.05*	.05*
Parental Involvement	.21	.19	.12	.10	.16	.17	.19	.17
Homework Activities (Reading Help)	−.20	−.16	−.15	−.12	−.15	−.13	−.18	−.14
Homework Activities (Math Help)	−.19	−.16	−.13	−.12	−.14	−.13	−.18	−.15
Child's Reading Behavior	.41	.30	.21	.10	.37	.22	.39	.29
Child's TV-Watching Behavior	−.13	−.10	−.07*	−.04*	−.13	−.05*	−.11	−.09
Extra-School Activities	.12	.12	.07*	.08*	−.01*	.04*	.14	.12
Single-Adult Family	.17	.16	.07*	.11	.15	.14	.16	.15
Living Quarters	−.17	−.15	−.11	−.08*	−.13	−.10	−.15	−.14
Family Size	−.15	−.08*	−.09	−.05*	−.13	−.05*	−.11	−.04*
Ethnic Status	.28	.26	.18	.18	.25	.19	.25	.23

*Not significantly different from zero (using $\rho \leq .01$)

The pattern of correlation for the head of the house's educational attainment with student reading and math scores is also of interest. The number of years of education completed by the head of the house is related to reading and math achievement for All Students and for those not selected for CE (non-CE). Within Title I selectees, however, the strength of this relationship diminishes substantially for both reading and math. A large part of the reduction in multiple correlation is due to the singling out of many low achievers in the Title I selection process. The range of scores on the achievement test was substantially restricted only among those selected for Title I; hence, multiple correlation coefficients for the Title I students were reduced by attenuation. Even with the attenuation for Title I students, the home-environment variables, particularly reading behavior, homework activities, ethnic status, and head of house's educational attainment, are significantly related to achievement.

Among those selected for Other CE only, educational attainment shows the expected large positive correlation with reading achievement, but not with math achievement. Parents' years of education is not as consistently correlated with achievement as is childrens' reading behavior. Ethnic status, on the other hand, is consistently correlated with both reading and math performance across all subgroups; majority students score higher than minority students.

There are several descriptor variables that show few significant correlations with measures of student achievement. Chief among these is the age of the head of the house. No correlation coefficient of this variable with reading or math achievement reaches statistical significance. The size of the family is significantly correlated with reading alone; the larger the family, the lower the reading achievement measure. Other variables that are significantly related to achievement are: extra-school activities and TV-viewing habits; the higher the score on the TV-viewing scale, the lower the reading and math achievement measures; and the higher the school activities level, the higher the reading and math achievement.

In summary, the following patterns of correlation are observed in Table 2-5:

- High achievement in both reading and math is consistently associated with high levels of out-of-school reading activity, the years of education completed by the head of house, non-minority ethnic status, and high levels of parental involvement with the school.
- Low achievement in both reading and math is consistently associated with high scores on the reading and math *homework* scales, single-adult families, and families in multiple dwellings.

MULTIPLE RELATIONSHIPS

A stepwise multiple-regression technique was used to explore the multivariate relationships among eleven home-environment descriptor variables (independent variables) and reading-math achievement (dependent variables). This method enters variables into a multiple linear-regression equation in a stepwise manner. At each step, a variable is entered into the equation according to an F-to-enter criterion. The order of entry for the variables is determined only by this criterion; no effort to predetermine the order of entry is made. Separate stepwise regressions are presented for the total sample and for subgroups based on CE selection status,

Table 2-6

Summary of the Percent of Variance Accounted for by Home Environment Variables for the Total Sample and Selected Subgroups

	% Variance Accounted For	
	Reading	**Math**
TOTAL SAMPLE	28%	18%
CE Selection Status		
Title I	9	6
Other CE	21	10
No CE	25	16
Poverty Status		
Poor Students	16	11
Non-Poor Students	24	14
Grade Level		
Grade 1	12	13
Grade 2	33	20
Grade 3	32	24
Grade 4	35	18
Grade 5	37	23
Grade 6	30	18

poverty status, and student grade. Table 2-6 presents a summary of the percent of variance accounted for and the standard errors of the separate regressions. In general, it shows:

- For the total sample (and all subgroups), home-environment variables account for a larger proportion of the variance in reading achievement than in math achievement (except for Grade 1).
- Home environment accounts for a larger proportion of the variance in student achievement when students are separated by grade (especially Grades 2-6) than for any other segmentation.
- The proportion of reading and math achievement variance accounted for by home-environment variables is smallest for the regression within Title I selectees, but this category has the largest restriction of range of the achievement scores of any group.

Tables showing the complete analysis for each of the subgroups in Table 2-6 may be found in Table 2-7 and Appendix A.

The detailed results of the regressions relating home-environment variables to student achievement for All Students, Title I selectees, Other CE selectees and those not selected for any CE are reported in the following paragraphs. A summary of these regressions can be found in Table 2-7.

In Table 2-7 home-environment descriptor variables have been listed in descending order by the percent of variance each accounts for in the regression of all students on reading achieve-

Table 2-7

Multivariate Analysis of Reading and Math Achievement by Student CE Selection Status

	All Students		Title I		Other CE Only		No CE	
	Reading	Math	Reading	Math	Reading	Math	Reading	Math
Multiple R	.53	.43	.30	.24	.46	.32	.50	.40
Variables in The Equation								
Rank ordered by contribution to variance in reading achievement (all students)	% Accounted For		% Accounted For		% Accounted For		% Accounted For	
Child's Reading Behavior	16.8	4.3	4.4	.1	14.0	4.7	15.0	4.2
Head of House's Educational Attainment	6.3	10.0	.5	.4	3.2	.9	5.6	8.5
Homework Activities	2.3	.9	2.2	.7	1.8	2.0	2.2	.7
Ethnic Status	1.4	2.4	1.2	3.4	.6	.5	1.3	2.1
Family Size	.3	*	.2	.1	.4	*	.3	*
Single-Adult Family	.3	.2	*	.1	.3	.3	.3	*
Parental Involvement	.1	.3	*	*	.2	1.5	.1	.3
Head of House's Age	.1	.1	.2	*	*	*	.2	.2
Child's TV-Watching Behavior	.1	*	.1	*	*	.1	*	.1
Extra-School Activities	*	.1	.1	.6	.3	*	*	.1
Living Quarters	*	*	.2	*	*	*	*	*

* Less than .1 of 1%

ment. This particular regression accounts for 28 percent of the variance in reading achievement. Four variables contribute more than one percent to the total accounted for variance: out-of-school reading behavior, educational attainment of the head of house, reading-homework activities, and ethnic status of the family. Using reading achievement as the dependent variable, all remaining home-environment variables make much smaller contributions to the estimation of reading achievement.

A similar pattern is observed when relating home-environment descriptors to math achievement for all students. The same four variables account for one percent or more of the contributed variance. The order of importance of these variables varies from that observed when relating home-environment descriptors to reading achievement. For math performance among all students, parents' education emerges as the most strongly related to achievement followed by the child's reading behavior, family ethnic status and, finally, math homework activity.

The contribution of each of the independent home-environment variables can be traced in Table 2-7. The variables that most consistently account for reading and math achievement among the subgroups include:

- Child's reading behavior
- Head of house's educational attainment
- Homework activities (reading or math)
- Ethnic status

In the analyses of home-environment variables, the descriptor most strongly related to reading achievement is the child's out-of-school reading behavior. This variable accounts for approximately 17 percent of the variance in reading achievement for the total sample, 15 percent for the non-CE subgroup and 14 percent for the Other CE only subgroups. It even accounts for approximately 4 percent of the variance in math achievement for the same groups. However, due to attenuation, the strength of the relationship to reading achievement is substantially diminished (down to 4 percent) for Title I selectees.

Educational attainment of the head of house accounts for a high proportion of the variance (5 percent or more) in both reading and math achievement for the total sample and for the subgroup of those not selected for any CE.

Homework activities (reading and math) are more strongly related to reading achievement than math achievement for all subgroups except Other CE only selectees. Among Title I selectees, the level of homework activity (reading) is second only to the child's reading behavior in accounting for variances in reading achievement. Ethnic status appears to be more strongly related to math achievement than reading achievement. This is particularly true for students selected for Title I programs.

Last, parental involvement with a child's school and extra-school activities surfaces as more strongly related to math achievement than to reading achievement. The more involved the parents and the children are with school activities, the higher the math achievement.

The general profile of high and low reading achievers constructed from these four variables (see Table 2-5 for first order correlation coefficients) is:

- Tend to be high achievers — High out-of-school reading activity; high education level for the head of the house; low level of homework activity; and a non-minority family background.

- Tend to be low achievers — Low out-of-school reading activity; low education level for the head of the house; high level of homework activity; and a minority family background.

High and low math achievement profiles differ only in the order of strength of the variables:

- Tend to be high achievers — High education level for the head of the house; high level of out-of-school reading activity; a non-minority family background; and low level of homework activity.

- Tend to be low achievers — Low education level for the head of the house; low level of out-of-school reading activity; minority family background; and high level of homework activity.

The preceding profiles ignore many home-environment variables used in the analyses. Two such ignored variables are 'type of living quarters' and 'single adult family'. Frequently, teachers and administrators have access to information on these variables even when they lack information on other home-environment variables. Table 2-8 shows the percent of students in the *lowest* reading and math achievement quarter as categorized by single adult family, ethnic status (also readily available), and by type of living quarters.

On a percentage basis, students found most often in the lowest quarter of both reading and math achievement come from single-adult minority families living in some type of multiple-dwelling unit. More than half of these students score in the bottom quarter of both reading and math achievement distributions. Further, minority status clearly separates the subgroups of students categorized in this fashion with 40 percent or more of all minority students found in the bottom quarter. The poorest performing group of non-minority students consists of single-adult families living in multiple dwellings. By far the largest *number* of students are of the majority ethnic status with two adults in a single-family dwelling. Only 18 percent of these students score in the bottom quartile of reading and math achievement.

COLINEARITY

To eliminate the sizeable number of significant correlations among the home-environment descriptors, a factor analysis was designed to reduce the eleven original variables to a set of more manageable factors. Rather than performing a factor analysis for the full sample, two

Table 2-8

Percent of Students in Lowest Achievement Quarter When Categorized by Single-Adult Family, Ethnic Status and Living Quarters

	Percent in Lowest Quartile			
	Reading	(N)	Math	(N)
Single-Adult Family, Minority, Multiple-Dwelling	54%	(758)	51%	(755)
Single-Adult Family, Minority, Single-Dwelling	46%	(450)	46%	(450)
Two-Adult Family, Minority, Multiple-Dwelling	46%	(548)	40%	(548)
Two-Adult Family, Minority, Single-Dwelling	40%	(1409)	37%	(1409)
Single-Adult Family, Non-minority, Multiple-Dwelling	29%	(385)	26%	(383)
Two-Adult Family, Non-minority, Multiple-Dwelling	25%	(756)	24%	(752)
Single-Adult Family, Non-Minority, Single-Dwelling	22%	(882)	23%	(881)
Two-Adult Family, Non-minority, Single-Dwelling	18%	(8834)	18%	(8827)

independent, randomly-selected subsamples were used (Subsample 1:N = 1556; Subsample 2:N = 1471). The subsamples were used to test the stability of the factor structure describing the relationships of the home-environment variables and to compare the regressions using factor scores derived from each factor analysis to account for the variance in reading and math achievement. A comparison of the distribution of the variables used in these analyses for the full sample and the two subsamples was made. It revealed no significant differences.

An iterated principal factor analysis of the home-environment variables (using estimates of communality in the diagonal) was performed for both subsamples. Four factors were extracted. Factors were rotated to the varimax criterion. The rotated factor loadings for the eleven home-environment variables are shown in Table 2-9. Factor loadings less than .40 have been suppressed in this table.

Clearly, the two factor structures are similar. Homework activities in reading and math constitute the first factor (Factor I) for both subsamples. Parental involvement and the child's extra-school activities load highly on Factor III for Subsample 1 and on Factor IV for Subsample 2. The remaining factors (Factors II and IV in Subsample 1, and Factors II and III in Subsample 2) combine home-environment variables which are best described as reflecting the socio-economic status (SES) of the home.

Factor II of Subsample 1 combines ethnic status, type of living quarters, and the educational attainment of the head of house with the child's reading behavior and single-adult-family status to produce a general SES factor labeled SES1[A]. Factor II of Subsample 2 follows a similar pattern except that type of living quarters and single-adult-family status load separately on the third factor extracted from this subsample. The second SES factor (Factor III) for Subsample 1 consists of family size and single-adult family status. While not totally consistent, the

Table 2-9

Factor Loading of Home Environment Variables for Subsamples 1 and 2

	Rotated Factor Loadings (2 Decimals)							
	Subsample 1				Subsample 2			
	I	II	III	IV	I	II	III	IV
Educational Attainment	—	.44	—	—	—	.57	—	—
Age	—	—	—	—	—	—	—	—
Parental Involvement	—	—	.80	—	—	—	—	.56
Homework Activities –Reading	.94	—	—	—	.95	—	—	—
Homework Activities –Math	.94	—	—	—	.94	—	—	—
Child's Reading Behavior	—	.41	—	—	—	.43	—	—
Child's TV-Watching Behavior	—	—	—	—	—	—	—	—
Extra-School Activities	—	—	.49	—	—	—	—	.53
Single-Adult Family	—	.42	—	.41	—	—	.56	—
Living Quarters	—	.49	—	—	—	—	.55	—
Family Size	—	—	—	.55	—	—	—	—
Ethnic Status	—	.61	—	—	—	.51	—	—

Factor Labels

Subsample 1

Factor I	Homework
II	SES1[A]—Ethnic Status, Living Quarters, Educational Attainment, Single-Adult Family, Child's Reading Behavior
III	School Involvement
IV	SES1[B]—Family Size, Single-Adult Family

Subsample 2

Factor I	Homework
II	SES2[A]—Educational Attainment, Ethnic Status, Child's Reading Behavior
III	SES2[B]—Single-Adult Family, Living Quarters
IV	School Involvement

combination of home-environment variables into SES factors does show the relative importance of ethnic status, education of head of house, and child's reading behavior, in accounting for the variance in reading and math achievement. Table 2-9 provides labels for the extracted factors.

Correlation coefficients among the factor scores derived from these analyses, along with correlation coefficients with reading and math achievement, are presented in Table 2-10. The factor scores are less correlated than were the descriptor variables used in the factor analysis (see Table 2-3). Homework and school-involvement factor scores correlate with reading and

Table 2-10

Correlation Coefficients of Each Factor Score for Subsample 1 (Above Diagonal Line) and Subsample 2 (Below Diagonal Line) With Other Factor Scores, Reading, and Math Achievement

	Homework Scores	SES[A] Scores	School Involvement Scores	SES[B] Scores	Reading Achievement	Math Achievement
Homework Scores		−.05	.00	−.01	−.15	−.13
SES[A] Scores	−.05		.22	.13	.47	.37
School Involvement Scores	.01	.04		.17	.19	.15
SES[B] Scores	−.02	.14	.03		.09	.12
Reading Achievement	−.16	.38	−.06	.20		.67
Math Achievement	−.12	.32	−.03	.20	.66	

math achievement with the same direction and approximately the same degree of magnitude in both Subsamples 1 and 2. The more homework activity the lower the achievement score, while the higher the school involvement the higher the achievement score (all correlations are significant at the .01 level).

The relationship of the first SES factor extracted for both subsamples is large and positive. These factors share the following home-environment variables:

- Ethnic Status
- Head of House's Education Attainment
- Child's Reading Behavior

It was noted earlier in this chapter (see Table 2-7) that these same variables taken singly account for most of the achievement variance attributed to all home-environment variables. The second SES factor for Subsample 1 fails to produce a significant correlation with either reading or math achievement. The second SES factor for Subsample 2 does yield some significant correlations. This factor combines single-adult-family status and type of living quarters. The direction of the factor score correlations with both reading and math indicates that children from families with two or more adults living at home in single-family dwellings have higher levels of achievement than their counterparts in single-adult households residing in multiple-family dwellings.

A multiple linear regression of the factor scores for both subsamples (see Table 2-11) against reading and math achievement indicates, in general, that factor scores fail to account for as much of the total variance in achievement as the home-environment variables taken individually. For Subsample 1 the factor scores account for 19.0 percent of the variances in reading and 13.7 percent in math achievement. For subsample 2 the corresponding numbers are 24.5 percent and 16.1 percent. Not unexpectedly, the first SES factor scores which combine parents' education, ethnic status and child's out-of-school reading behavior dominate the regression for both subsamples, accounting for most of the variance in reading and math achievement. Homework activities and school involvement each account for between 1 and 2 percent of the achievement variance in both subsamples. The second SES factor extracted from both subsamples fails to account for more than a small fraction of the reading and math variance.

NON-SCHOOL ACTIVITIES AND ACHIEVEMENT

Parents were asked to describe just how their children spent non-school waking hours. Five types of activities were given to each parent to describe. These include: time spent doing homework, time spent reading, time spent watching TV, time spent doing chores, and time spent playing. Descriptions were given in minutes or hours per weekday spent at each activity. Marginal distributions for each activity variable are displayed in Table 2-12. Also, the distributions are shown for children in the bottom and the top quarters of reading and math achievement. No hypotheses were specified for identifying the expected relationships between time spent in these activities and achievement. The purpose of this analysis, therefore, is to explore

Table 2-11

Regression Summary for Subsamples 1 and 2: Percent of Variance Accounted For

		% Accounted For	
		Reading	Math
Subsample 1			
Factor II	SES1[A]	14.5	10.0
III	School Involvement	2.1	2.3
I	Homework	1.9	1.2
IV	SES1[B]	.6	.2
	TOTAL PERCENT ACCOUNTED FOR	19.0	13.7
Subsample 2			
Factor II	SES2[A]	22.0	13.9
I	Homework	1.6	1.2
IV	School Involvement	.9	.6
III	SES2[B]	—	.4
	TOTAL PERCENT ACCOUNTED FOR	24.5	16.1

the data for differences in time allocated to non-school activities by students in the bottom and top quarter in reading and math achievement.

Data in Table 2-12 indicate that there are few differences between distributions of the various non-school activities between the top and bottom quarters of reading and math achievement. For this discussion we will deal with reading achievement only. All findings reported for reading achievement apply to math achievement as well.

Two scales dealing with non-school activities measured in this study have already been shown to relate to achievement—the homework index, and the reading-behavior index. The pattern that emerges from these data in Table 2-12 correspond to that found for the two indices. High-achieving or top-quarter students spend significantly less time doing homework and significantly more time in recreational reading than low-achieving (bottom quarter) students.

The relationship between time spent at chores around the house and reading achievement is not a strong one. Approximately 35 percent spend less than one-half hour at jobs around the house. No differences are observed between top- and bottom-quarter students.

Data from the parent interviews indicate that the average amount of time spent by children watching television is about two and one-half hours daily. Sixty-two percent (62%) of the children achieving in the top quarter watch less than the average compared to 51 percent of the bottom-quarter students. The greatest difference between top- and bottom-quarter students in the time spent watching television is that 19 percent of the bottom-quarter students watch three and one-half hours or more of television a day compared to 12 percent of the top-quarter students. A similar pattern emerges when analyzing time spent in play activities.

Table 2-12

Reading and Math Achievement by Weekday Time Spent at Non-School Activities

	All Children %	Reading Achievement		Math Achievement	
		Bottom Quarter %	Top Quarter %	Bottom Quarter %	Top Quarter %
Time Spent Watching TV					
Less Than 1 1/2 Hours	17	17	20	17	18
1 1/2 to Less Than 2 1/2 Hours	39	34	42	36	43
2 1/2 to Less Than 3 1/2 Hours	28	30	26	28	27
3 1/2 Hours or More	16	19	12	19	13
Total	100	100	100	100	101
(Base)	(14157)	(3482)	(3565)	(3423)	(3580)
Time Spent Playing					
Less Than 1 Hour	10	10	10	9	10
1 to Less Than 2 Hours	32	29	36	31	34
2 to Less Than 2 1/2 Hours	33	32	33	31	34
2 1/2 Hours or More	25	29	21	29	22
Total	100	100	100	100	100
(Base)	(14157)	(3476)	(3560)	(3418)	(3578)
Time Spent Reading					
Less Than Half-Hour	19	26	11	24	12
Half-Hour to Less Than 1 Hour	34	33	31	33	35
1 to Less Than 1 1/2 Hours	32	29	36	29	34
1 1/2 Hours or More	15	12	22	14	19
Total	100	100	100	100	100
(Base)	(14157)	(3466)	(3565)	(3414)	(3579)
Time Spent Doing Chores					
No Time	15	19	12	19	11
Less Than Half-Hour	21	17	25	17	25
Half-Hour to Less Than 1 1/2 Hours	57	55	58	55	60
1 1/2 Hours or More	7	9	5	9	4
Total	100	100	100	100	100
(Base)	(14157)	(3483)	(3562)	(3421)	(3578)

Table 2-12 (Continued)

Time Spent Doing Homework					
No Time	18	16	22	16	22
Less Than 1 Hour	35	31	40	30	40
1 to Less Than 1 1/2 Hours	30	33	27	33	26
1 1/2 Hours Or More	17	21	11	21	12
Total	100	101	100	100	100
(Base)	(14157)	(3478)	(3563)	(3422)	(3578)

Table 2-13

Child's Non-School Activity Patterns by CE Selection Status

	Student CE Selection Status		
	Title I %	Other CE Only %	No CE %
Time Spent Playing			
Less Than 1 Hour	10	8	10
1 to Less Than 2 Hours	29	28	34
2 to Less Than 2 1/2 Hours	34	32	32
2 1/2 Hours or More	27	32	24
Total	100	100	100
(Base)	(1959)	(1392)	10481)
Time Spent Doing Homework			
No Time	16	19	18
Less Than 1 Hour	31	35	36
1 to Less Than 1 1/2 Hours	34	30	29
1 1/2 Hours or More	19	16	16
Total	100	100	100
(Base)	1958)	(1393)	(10490)

Table 2-13 (Continued)

Time Spent Reading			
Less than Half-Hour	25	23	17
Half-Hour to Less Than 1 Hour	32	34	34
1 to Less Than 1 1/2 Hours	30	29	33
1 1/2 Hours or More	13	14	16
Total	100	100	100
(Base)	(1952)	(1393)	10481)
Time Spent Watching TV			
Less Than 1 1/2 Hours	18	17	17
1 1/2 to Less Than 2 1/2 Hours	35	39	40
2 1/2 to Less Than 3 1/2 Hours	28	27	28
3 1/2 Hours or More	19	17	15
Total	100	100	100
(Base)	(1958)	(1395)	(10497)
Time Spent Doing Chores			
No Time	20	16	14
Less Than Half-Hour	18	22	24
Half-Hour to Less Than 1 1/2 Hours	53	53	59
1 1/2 Hours or More	10	9	6
Total	101	100	100
(Base)	(1961)	(1393)	(10492)

No differences between top and bottom achievers are found when play per day is less than one hour. On the other hand, bottom-quarter children are more likely to spend more than two and one-half hours at play than are children in the top-achievement quarter.

These data are of interest insofar as they point out differences in activity patterns that exist among high and low achievers. Further, the question of differences in activity patterns for those selected and not selected for CE is also of interest. Data bearing on this question are presented in Table 2-13. Some noteworthy differences emerge from an examination of this table:

- Parents report students selected for Title I programs spend significantly more time doing homework than other students.
- A significantly higher percentage of students selected for CE spend less than one-half hour per day in recreational reading, compared to those students not selected.
- Children selected for some form of CE are likely to show an activity pattern that includes more time spent playing than those not selected.

Some demographic group differences do occur in the activity data. For example, minority students are likely to spend more time at homework per day and watch more TV than non-minority students. This finding is particularly true among minority students selected for Title I programs. When it comes to leisure time reading, there is a difference between the sexes. Males are significantly less likely to spend time reading than are females. Again, while this trend is found across each of the three groups, differences are strongest among those selected for Title I programs.

SUMMARY

Non-school reading behavior (measured in terms of having more than 30 books that a child can read in the home, subscribing to newspapers and magazines, a stated preference for storybooks over school or comic books, bringing home more than five library books every two weeks, and spending at least one hour per day in recreational reading) has the strongest, most consistent relationship with high reading achievement among all home-environment variables. Further, this variable has also a reasonably strong relationship with math achievement.

The head of house's educational attainment (the number of years of formal education completed by the head of the house) has the second strongest relationship with reading achievement. It has the strongest home-environment relationship with math achievement. On a relative basis, the head of house's education has a stronger relationship with math achievement than reading achievement; the higher the level of formal education of the head of house, the higher the level of math achievement.

Homework activities as reported by the parent (measured in terms of bringing homework home frequently, obtaining frequent help with the homework, spending more time on homework than the average, and having others besides the parents assist with the homework) are

negatively related to achievement (both reading and math). The homework activities index accounts for approximately two percent of the variance in math achievement.

Ethnicity is related to achievement—accounting for 1.4 percent of the variance in reading achievement and 2.4 percent of the variance in math achievement for the total sample. On the average, non-minority students achieve higher scores on both reading and math than minority students. The remaining home-environment variables (family size, single-adult family, parental involvement, head of house's age, TV-watching behavior, extra-school activities, and living quarters) account for very small increments of the variance in reading and math achievement (usually equal to or less than three-tenths of one percent). Many of these variables show a statistically significant relationship with achievement but, in practical terms, add very little to explaining the variation in reading and math performance.

Finally, for all student subgroups, home-environment variables have more impact on reading than on math achievement.

CHAPTER 3. PARENTAL AWARENESS OF AND INVOLVEMENT IN COMPENSATORY EDUCATION

This chapter focuses on the level of parental awareness of and involvement in CE. In this study, awareness was measured both for CE programs in general and for Title I programs specifically. General awareness of special classes for the disadvantaged was measured first and will be covered in the first section of this chapter. Specific Title I awareness was measured next in the survey and is the subject of the second part of this chapter. Finally, the awareness of parent advisory groups, organizations or councils (PACs) was measured, as were membership and participation in these groups. This topic makes up the last section in this chapter.

AWARENESS OF CE

Parents interviewed for this study were asked whether or not they were aware of any special classes in their children's schools that were designed to help children learn subjects with which they had problems. Sixty-eight percent (68%) indicated that their children's schools had special classes of this nature. Nine percent (9%) said that the schools did not have such classes, and the remainder (23%) said they did not know one way or the other.

As would be expected, responses varied according to the CE selection status of the children and the school CE receipt category. Table 3-1 presents data indicating that parents of children who have been selected for participation in Title I programs are the most aware of programs of a special nature in their children's schools (77%). Parents of students selected for Other CE are next (73%), with parents of non-CE students the least aware (66%). The data indicate that overall awareness of special classes is high among all parents.

The data also distinguish among levels of awareness of parents whose children attend schools receiving Title I funds, Other CE funds only, and schools with no CE funds. Again, according to expectation, awareness of special classes is highest for parents with children in Title I schools (73%), next highest for parents of children in schools receiving non-Title I CE funds (65%), and lowest for parents of students in schools where no CE funds are received. The data indicate that while 68 percent of the parents claim awareness of special classes to help children learn subjects with which they are having problems, only about 73 percent of these, or about half of all parents, have in mind a class that might be considered compensatory in nature.

Returning to Table 3-1, the reader may see the first response given by parents broken down by student CE selection status and school CE receipt category. The percentages in this table are based only on those parents who were asked the questions. Those who said their children's schools did not have special classes, or who said they did not know if such classes were present in the schools were naturally not asked to describe the classes. Clearly, Title I was more likely to be mentioned by parents of Title I students or parents with children in schools receiving Title I funds. Specific mentions of reading or math classes were highest among parents of Title I selectees and parents whose children attend a school where Title I programs were operating. Given the focus of Title I on reading and math, this comes as no

Table 3-1

Parental Awareness of Special Classes for Disadvantaged

	Student CE Selection Status			School CE Receipt Status		
	Title I (N=1,965) %	Other CE (N=1,396) %	No CE (N=10,508) %	Title I (N=8,645) %	Other CE (N=3,627) %	No CE (N=1,604) %
Percent Aware of Special Classes	77	73	66	73	65	52*
Kinds of Class Awareness (First Mentions Only)						
Title I	7	2	4	6	1	1
Reading or Math	65	60	53	59	51	46
Other Academic	5	9	3	4	6	2
Handicapped	17	21	32	24	34	41
Don't Know	7	9	8	8	8	10
Total	101	101	100	101	100	100
(Subgroup A)**	(1,521)	(1,013)	(6,934)	6,270)	(2,360)	(841)
Percent Believing Their Child Attends a Special Class	73	57	21	35	29	28
Kind of Class Attended (First Mentions Only)						
Reading	68	60	45	59	47	46
Math	13	11	8	11	10	6
Other	20	30	48	31	43	47
Total	101	101	101	101	100	99
(Subgroup B)***	(1,100)	(578)	1,478)	(2,244)	(679)	(233)

*There is a basic misperception among these parents who believe their children's school has special classes for the disadvantaged, yet whose children attend schools that do not receive any CE funds. Some of this misperception is explained by the high percentage of parents who associate special classes with the physically and mentally handicapped.

**Subgroup A = Percent Aware of Special Classes times N for each category.

***Subgroup B = Percent Believing Their Child Attends a Special Class times N for Subgroup A.

surprise. Special education for the handicapped or disabled was the class mentioned most often by parents whose children were not selected for compensatory programs and parents of children attending schools where no CE funds are received.

Parents were then asked whether their children were participating in a special class at school and, if so, which kind of class. Thirty-three percent (33%) of the queried parents (23 percent of all parents) claimed that their children were involved in a special class. Again, Table 3-1 provides the breakdown of responses according to student and school CE status. Seventy-three percent (73%) of Title I selectees knew their children were attending a special class in order to overcome learning problems. Only 21 percent of the parents of children not selected for any CE made a similar claim.

When examining these data by the type of school attended, a similar but less dramatic pattern is observed. Parents whose children attend a Title I school are more likely to claim that their child participates in a special class (36 percent of those questioned) than are parents of children in Other CE schools (29%) and parents of children in schools receiving no CE funds (28%).

Of special interest to the Participation Study is the fact that a significant difference exists in the level of awareness of special classes between the poor and non-poor among parents of Title I selectees. In this case, the poor are less aware (69%) than the non-poor parents (83%). However, comparable differences do not surface when examining the data for parents of Other CE selectees and those not selected for any CE.

Another item of interest is that parents of minority students are consistently and significantly less aware of special classes across all student selection groups and school CE receipt categories. Also, parents of Title I selectees in the Midwest reported the highest level of awareness.

To determine whether or not the special classes the parents had in mind when they answered the first question on awareness were compensatory in nature, the parents were asked to name the special classes in their children's schools or to provide a description of the class by mentioning the type of things that were taught. Given the likelihood that some parents would mention special classes for the handicapped or mentally retarded, interviewers were instructed to probe and to accept two or three responses from the parents. The resulting responses fell into five basic categories: where Title I was specifically mentioned, where reading or math was mentioned, where other academic classes were indicated, where classes related specifically to the disabled and handicapped were indicated, and where respondents did not know which special classes the school had.

Table 3-2 presents an overview of these categories. Once a specific response was given it was no longer accepted or recorded on subsequent mentions; hence, the specific categories can be considered to be additive. A total of 615 parents mentioned Title I in one of the three responses they gave to the question. This represents an unaided awareness of about 4 percent of the population of elementary school parents who link special compensatory programs in their children's school with Title I. Reading or math was the most frequently mentioned class with a total of 61 percent of the total sample describing special classes in their children's

Table 3-2

Special Classes Identified By Parents

	1st Mention %	2nd Mention %	3rd Mention %	Total– 3 Mentions %
Title I	2.9 (405)	1.2 (173)	0.3 (37)	4.4 (615)
Reading or Math	38.1 (5395)	18.8 (2667)	3.8 (545)	60.7 (8607)
Other Academic Classes	2.8 (401)	3.1 (434)	2.3 (321)	8.2 (1156)
Disabled or Handicapped	19.1 (2704)	11.9 (1679)	4.7 (665)	35.7 (5048)
Other, Don't Know	5.3 (755)	33.2 (4707)	57.2 (8092)	N/A N/A
Were Not Asked Question*	31.8 (4497)	31.8 (4497)	31.8 (4497)	N/A N/A
N =	14157	14157	14157	

*Parents who claimed their children's school did not have any special classes were not asked to name any special classes at the school.

schools as involving these subjects. Few people mentioned other academic classes, but many people (36 percent overall) associated disabled or handicapped programs with special classes.

Other interesting findings in this area show that among parents of Title I selectees a significantly higher proportion of non-poor parents (76%) are aware of their children's participations in compensatory-type classes than are poor parents (68%). In contrast, parents in poverty households whose children are not selected for CE (31%) are more likely to believe that their children participate in special programs than are non-poor parents (20%). A similar pattern holds for minority parents when compared to majority parents. Hence, parents of the disadvantaged (poor, minority) who are aware of special classes in their children's schools are more likely than parents of the non-disadvantaged to believe that their children participate when there is no participation.

Those parents who believe that their children attend special classes were asked what kind of classes these were. Reading was the most frequently mentioned specific special class (55% of those questioned) followed by math (10%). Reading is the most frequently mentioned special class by parents of Title I selectees and by parents whose children attend Title I schools. Where students are not selected for CE or do not attend CE schools, other types of classes, especially those for the handicapped and disabled, are more frequently mentioned.

AWARENESS OF TITLE I

After being questioned about special classes in general, parents were asked whether they had ever heard of Title I of the Elementary and Secondary Education Act passed by Congress. Thirty-nine percent (39%) of the parents indicated that they had heard of Title I. As can be seen in Table 3-3, little significant deviation occurs by student CE selection status or school CE receipt status. Again, there is a distinct difference in awareness according to the poverty status of the home. Parents in poor homes are significantly less aware of Title I (30 percent awareness level) when compared to non-poor parents (45%) of Title I selectees (see Table 3-4).

While parents with children in Title I schools or with children who are Title I selectees were no more or less likely to have heard of Title I, more of these parents provided accurate descriptions of the purpose of Title I that did parents of other children. Parents whose income is below the poverty line, and who claim to be aware of Title I, describe it accurately as often as, or even more often than, the non-poor.

This holds for poor parents of Title I selectees and poor parents of children in Title I schools. Parents of minority children are also able to correctly describe Title I, as well as parents of majority students.

All parents interviewed were asked whether or not they believed that Title I classes were present at their children's schools. Twenty-seven percent (27%) of the parents thought Title I classes existed at their children's schools. As expected, a higher proportion of parents whose children were Title I selectees or whose children attended Title I schools believed that Title I classes were present at their children's schools. No differences in the belief that Title I classes existed at their children's schools were observed between parents in poor families *versus* non-poor families, and parents in minority *versus* majority families (minority/majority status is not shown in Table 3-4 but closely parallels the data provided for economic status) across all CE student and school categories, except Title I. For those parents of Title I selectees, or parents of children attending Title I schools, the poor and the minority parents were correct less often in thinking that Title I classes were offered at their children's schools than were the non-poor and the majority parents.

The next question asked of those believing Title I classes were available at their children's schools focused on the kind of classes that were offered. Again, reading dominates the mentions made in response to this question. Reading was, by far, the most dominant type of Title I class identified among parents of Title I selectees or of children attending Title I schools.

The accuracy of awareness by parents of Title I selectees of their children's participation is examined in Table 3-3. Parents were asked whether or not they believed their children were in Title I classes. Seventy-one percent (71%) of the parents of Title I selectees believed their children were participating in Title I classes. Among parents of selectees for Other CE programs, 53 percent believed their children were in Title I classes. Only 15 percent of the parents interviewed, whose children were not selected for CE, had the misperception that their children were participating in Title I classes.

Table 3-3

Parental Awareness of Title I

	Student CE Selection Status			School CE Receipt Status		
	Title I (N=1,965) %	Other CE (N=1,396) %	No CE (N=10,508) %	Title I (N=8,645) %	Other CE (N=3,627) %	No CE (N=1,604) %
Percent Heard of Title I	38	34	40	39	41	37
Percent of those who have heard of Title I who can correctly describe it	55	43	43	47	42	35
(Subgroup A)*	(749)	(470	(4,187)	(3,339)	(1,475)	(596)
Percent Believing Title I Classes Present at Child's School	38	28	25	34	18	12
Kinds of Title I Classes (First Mention Only)						
Reading	68	52	60	65	48	48
Math	11	12	8	9	12	5
Other Academic	3	12	3	3	5	3
Handicapped	10	10	15	13	15	23
Don't Know	8	14	14	11	20	21
Total	100	100	100	101	100	100
(Subgroup B)**	(738)	(394)	(2,630)	(2,901)	(666)	(197)
Child Now in Title I Class	71	53	15	31	23	27
Helpfulness of Title I Class						
Extremely Helpful	32	37	42	37	34	43
Very Helpful	43	41	37	40	45	28
Somewhat Helpful	21	20	17	20	19	26
Not So Helpful	4	3	3	4	2	4
Total	100	101	99	101	100	101
(Subgroup C)***	(501)	(202)	(373)	(879)	(146)	(51)

*Subgroup A = Percent Heard of Title I times N for each category.
**Subgroup B = Percent Believing Title I Classes at Child's School times N for each category less missing cases.
***Subgroup C = Percent Believing Child Now in Title I Class times N for subgroup B less missing cases.

Table 3-4

Parental Awareness of Title I By Economic Status

	Economic Status	
	Poor/AFDC %	Non-Poor %
Percent Heard of Title I		
All Students	30	41
Title I Students Only	29	45
Percent Aware of Title I Correctly Identifying Title I		
All Students	48	44
Title I Students Only	55	55
Students in Title I Schools Only	49	47
Percent Believing Title I Classes Present at Child's School		
All Students	28	27
Title I Students Only	33	41
Students in Title I Schools Only	30	35
Child Now In Title I Class		
All Students	42	26
Title I Students Only	63	75
Non-CE Students Only	25	13

On examining these data further, some interesting differences emerge. Again, the poor consistently misperceived the participation of their children. For example, poor parents of Title I selectees show a lower perceived participation rate (63%) in Title I programs than non-poor parents (75%). Conversely, poor parents of children not selected for any CE program are more likely to think their children are participating in Title I programs than non-poor parents of non-selectees. This pattern is followed by minority parents when compared to majority parents; specifically, parents of minority children who have been selected for Title I are less likely to know of their children's participation in Title I, while parents of minority children not selected for any CE are more likely to believe their children participate in such programs.

Finally, parents who believed their children were in Title I classes were asked to rate the helpfulness of these classes in helping their children learn. The data in Table 3-3 represent all parents asked the question, though parents of Title I selectees are the only ones for whom such a measure is valid. Thirty-two percent (32%) of parents of Title I students perceive the Title I programs their children participate in as being extremely helpful, most (43%) feel it is very helpful, and another 21 percent can only give the program a "somewhat helpful" evaluation. Very few parents (4%) rate the program as not helpful. Interestingly, the extremely helpful rating of 32 percent is the lowest such rating for all groups. Parents who thought they had children in a Title I program, but who did not have children in such a program, average a 38 percent 'extremely helpful' rating. There appears to be a generous willingness on the part of respondents to view the whole educational apparatus in a favorable light.

PARENT ADVISORY GROUPS

A principal part of federal education programs stresses parental participation in the programs at the local level. Generally, parent advisory councils (PACs) or groups are formed at the district and/or school level to influence the programs that affect their own and their children's lives. Virtually all federal education programs require that some sort of advisory program be established and be composed of community members, preferably parents of program children. The Participation Study sought to measure parental awareness of such councils or groups and their participation, if any, in the councils.

First, parents were asked if, other than the PTA or PTO, they knew of any advisory group of parents at their children's schools that helped plan special programs or classes such as the compensatory and Title I classes that had been discussed earlier in the interview. Overall, 20 percent said they were aware of such a group of parents at their children's schools. Thirty-three percent (33%) said no such program existed as far as they knew, and the rest (48%) said they did not know one way or the other. The data in Table 3-5 presents the responses for parents of children in Title I schools, according to student CE selection status, controlling for poverty. Overall, parents of Title I and Other CE selectees are more aware of PACs than parents of students not selected for CE. Poor parents of Other CE students appear to be more aware of the PACs than non-poor parents of Other CE students.

Figure 3-1 presents data that show that parents of CE students who are members of minority ethnic groups are more aware of parent councils than majority parents. However, there is much less difference between the two groupings when the students have not been selected for any CE.

Figure 3-2 provides data on parental awareness of PACs by geographic region. Awareness is, clearly, highest in the West.

To further measure the level of awareness of PACs among parents, they were asked to name and to explain the purpose of the parent organization with which they were familiar. Responses given to these questions were grouped according to the categories found in Table 3-5. Few parents mentioned Title I specifically in their responses. Less than 30 percent of those aware of a parent advisory group at their children's schools could give a specific name that would imply the organization was likely to be one of the parent groups required for Title I programs. Responses were different according to poverty status. Non-poor parents of Title I selectees and non-CE students were more likely to identify parent advisory groups than their poor counterparts.

Sixty-six percent (66%) of the parents could correctly identify the purpose of the parent advisory group they had in mind as performing the function outlined for Title I programs. Correct response patterns were more prevalent among non-Title I parents. Among the group of parents with Title I selectees, the non-poor were correct significantly more often than the poor parents. Figure 3-3 reveals that minority parents of Title I students are less aware than majority parents of Title I selectees. There is not as large a difference attributable to minority and majority status among parents of other students.

Table 3-5

Parental Awareness of Parent Advisory Councils in Title I Schools by Student CE Selection Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Does Your Child's School Have An Advisory Group of Parents That Help Plan Special Classes or Programs?									
Yes	23.4 (189)	22.2 (257)	22.7 (446)	35.3 (91)	20.9 (116)	25.4 (207)	16.8 (209)	19.8 (915)	19.2 (1124)
No	22.3 (180)	30.0 (348)	26.9 (528)	15.9 (41)	33.8 (188)	28.1 (229)	26.9 (335)	35.2 (1627)	33.5 (1962)
Don't Know	54.2 (437)	47.8 (554)	50.4 (991)	48.4 (126)	45.3 (252)	46.4 (378)	56.3 (701)	44.9 (2075)	47.4 (2776)
N =	806	1159	1965	258	556	814	1245	4617	5862
What is the Name Of This Advisory Group or Organization of Parents?									
Parent Advisory Board	16.9 (32)	29.6 (76)	24.2 (108)	23.1 (21)	19.0 (22)	20.8 (43)	17.2 (36)	24.8 (227)	23.4 (263)
Title I Advisory Board	7.4 (14)	7.4 (19)	7.4 (33)	3.3 (3)	6.9 (8)	5.3 (11)	4.8 (10)	7.1 (65)	6.7 (75)
Other	75.7 (143)	63.0 (162)	68.4 (305)	73.6 (67)	74.1 (86)	73.9 (153)	78.0 (163)	68.1 (623)	69.9 (786)
N =	189	257	446	91	116	207	209	915	1124

Table 3-5 (Continued)

What Is The Purpose of This Parent Advisory Organization?									
Correct Response	49.7 (94)	70.0 (180)	61.4 (274)	63.7 (58)	66.4 (77)	65.2 (135)	67.5 (141)	68.9 (630)	68.6 (771)
Incorrect Response	50.3 (95)	30.0 (77)	38.6 (172)	36.3 (33)	33.6 (39)	34.8 (72)	32.5 (68)	31.1 (285)	31.4 (353)
N =	189	257	446	91	116	207	209	915	1124

Table 3-6

Parental Evaluation of and Involvement in Parent Advisory Councils in Title I Schools by Student CE Selection Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
How Successful Do You Believe The Parent Advisory Organization Is In Accomplishing Its Purpose?									
Very Successful	33.9 (64)	28.8 (74)	30.9 (138)	33.0 (30)	30.2 (35)	31.4 (65)	36.8 (77)	26.1 (239)	28.1 (316)
Somewhat Successful	33.9 (64)	35.4 (91)	34.8 (155)	30.8 (28)	35.3 (41)	33.3 (69)	30.6 (64)	39.1 (358)	37.5 (422)
Not Very Successful	4.8 (9)	8.9 (23)	7.2 (32)	4.4 (4)	7.8 (9)	6.3 (13)	6.2 (13)	8.7 (80)	8.3 (93)
Don't Know	27.5 (52)	26.8 (69)	27.1 (121)	31.9 (29)	26.7 (31)	29.0 (60)	26.3 (55)	26.0 (238)	26.1 (293)
N =	189	257	446	91	116	207	209	915	1124

Table 3-6 (Continued)

Are You Are Or Any Of You Neighbors Or Friends Members Of The Parent Advisory Organization?									
Respondent a Member	10.1 (19)	17.9 (46)	14.6 (65)	11.0 (10)	13.8 (16)	12.6 (26)	9.6 (20)	14.4 (132)	13.5 (152)
Friends or Neighbors Are Members	18.0 (34)	24.5 (63)	21.7 (97)	18.7 (17)	29.3 (34)	24.6 (51)	21.1 (44)	30.4 (278)	28.6 (322)
Neither/Don't Know	72.0 (136)	57.6 (148)	63.7 (284)	70.3 (64)	56.9 (66)	62.8 (130)	69.4 (145)	55.2 (505)	57.8 (650)
N =	189	257	446	91	116	207	209	915	1124
Have You Ever Voted For Someone Or Known About an Election For Parents to be Elected As A Member Of The Parent Advisory Organization?									
Have Voted	19.6 (37)	16.3 (42)	17.7 (79)	15.4 (14)	16.4 (19)	15.9 (33)	13.9 (29)	12.5 (114)	12.7 (143)
Have Known About An Election	14.8 (28)	16.7 (43)	15.9 (71)	22.0 (20)	19.0 (22)	20.3 (42)	14.4 (30)	11.4 (104)	11.9 (134)
Have Not Voted Nor Known About An Election	65.6 (124)	66.9 (172)	66.4 (296)	62.6 (57)	64.7 (75)	63.8 (132)	71.8 (150)	76.2 (697)	75.4 (847)
N =	189	257	446	91	116	207	209	915	1124

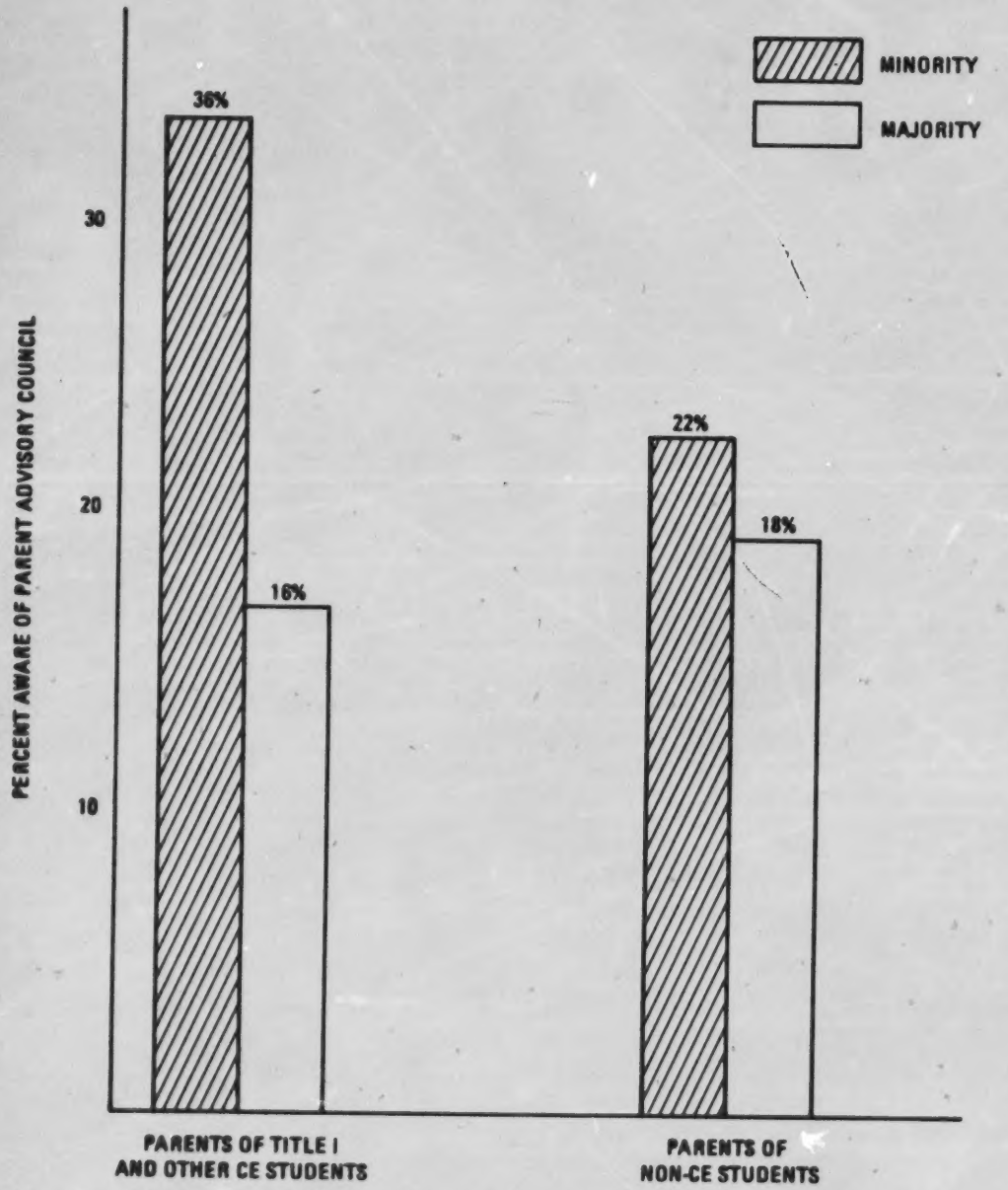

Figure 3-1 Percent of Parents With Children in Title I Schools Aware of Parent Advisory Council, by Student CE Selection Status and Ethnicity

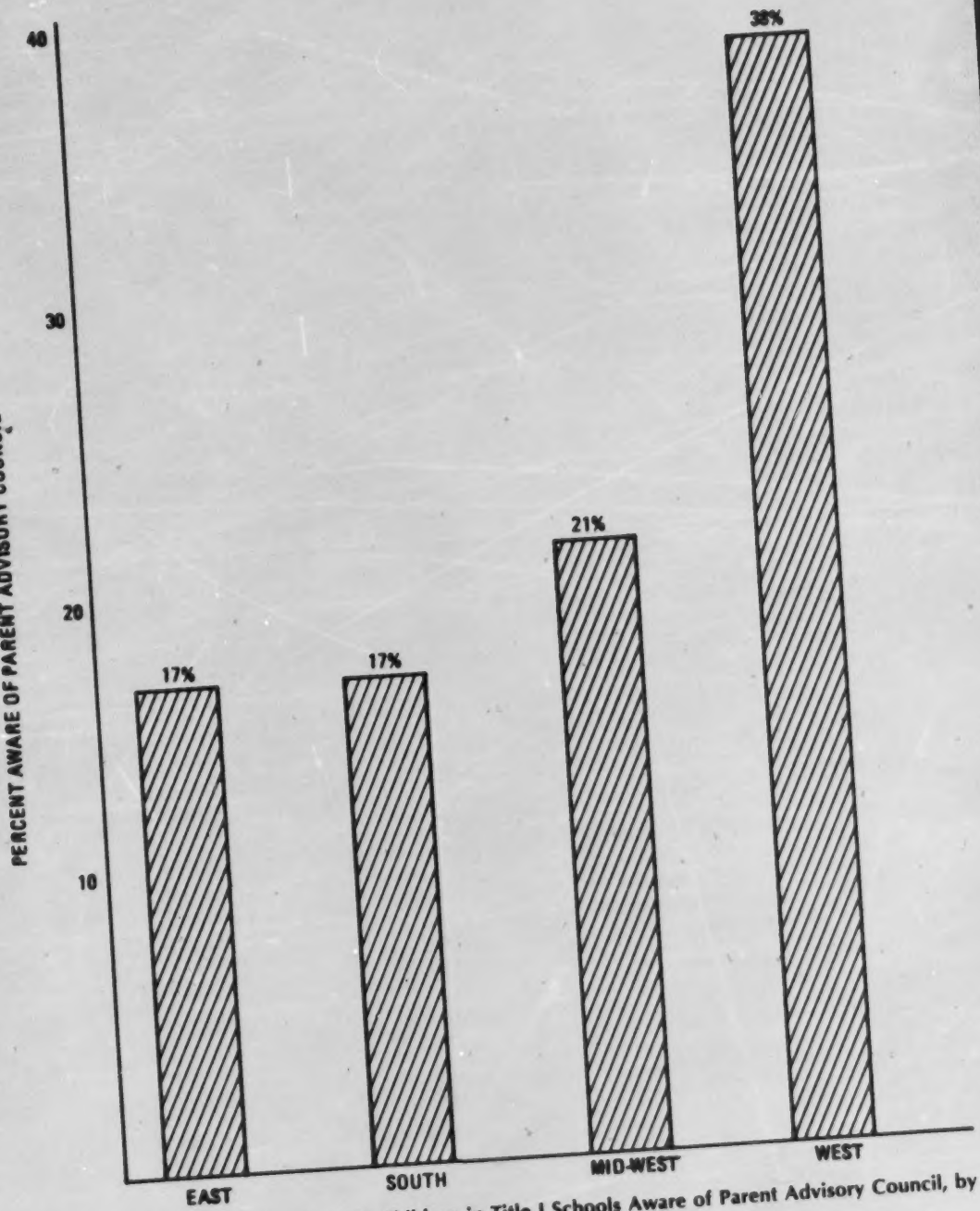

Figure 3-2 Percent of Parents With Children in Title I Schools Aware of Parent Advisory Council, by Geographic Region

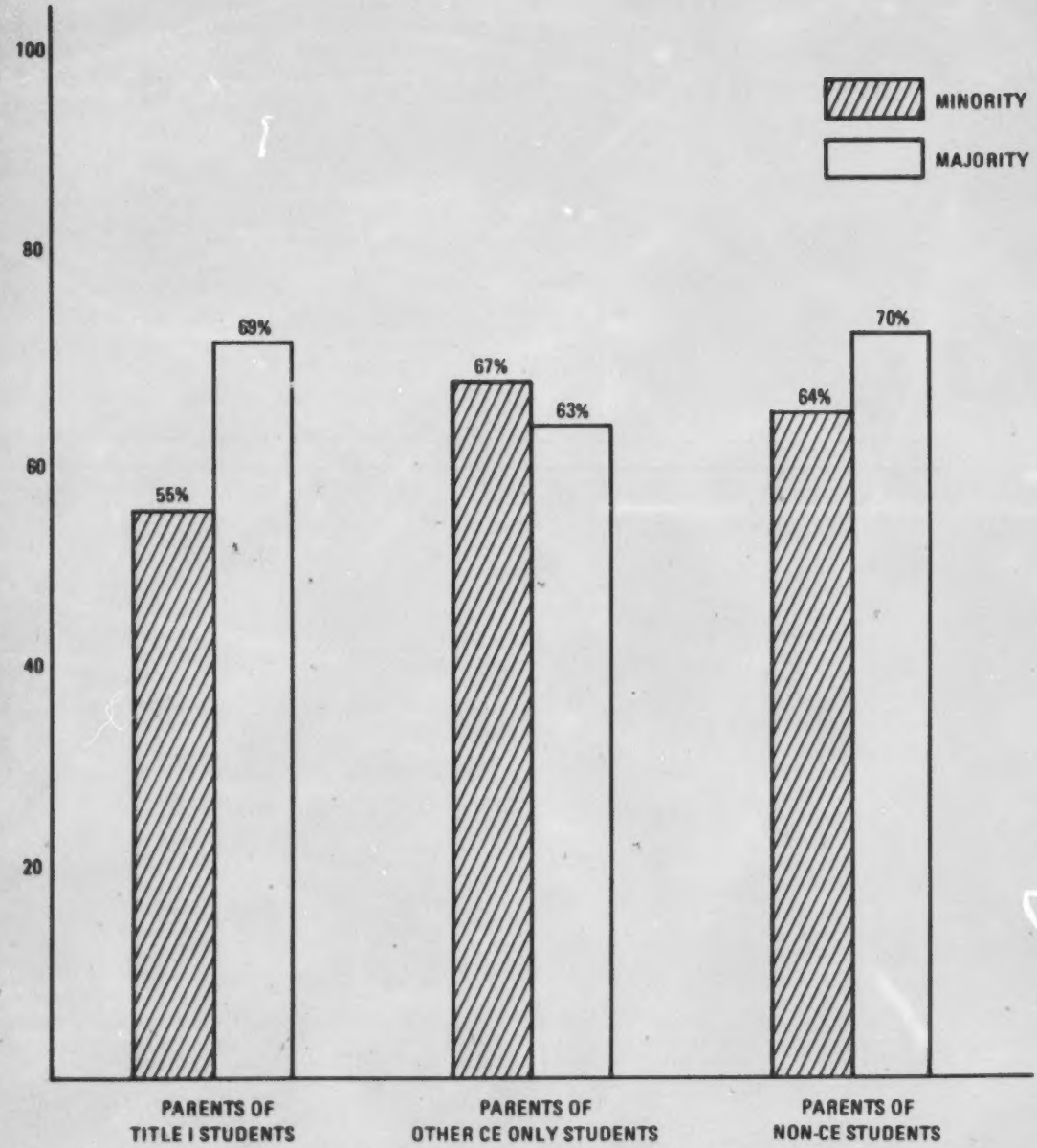

Figure 3-3 Percent of Parents who are Aware of Parent Advisory Councils and who have Some Understanding of Council's Purpose, by Student CE Selection Status, and Ethnicity

Table 3-6 presents data on how successful parents believe the PACs to be, whether or not they or their friends are members, and if they have known of or participated in an election for members of the parent advisory groups in their children's schools. The evaluation seems slightly higher for parents of Title I and Other CE selectees (31 percent gave a very successful rating in each case) than for parents of non-selectees (28%). Parents of poor children in each selection category give the councils the highest rating more often than non-poor parents. A relatively high number (27%) of all parents who were asked to evaluate the PACs felt insufficiently informed to make such an evaluation.

Approximately 14 percent of the parents of children in Title I schools claim to be members of parent advisory groups. There is not much variation by student CE selection status (the range is from 13 to 15 percent). However, there is a distinct difference when economic status is examined. Poor parents, particularly among Title I selectees, are less likely to be members of PACs than non-poor parents. The pattern is reinforced when the probabilities that the respondents' friends or neighbors are members of the groups are considered. Poor respondents were less likely to have friends or neighbors who participated in PACs than non-poor parents. In this area there is some deviation by student CE selection status. Parents of Title I students are less likely to know of friends or neighbors who are members of PACs than are other parents. Majority parents of Title I students are more likely to be aware of PACs than minority parents (See Figure 3-4).

The final measure of participation and awareness of PACs was a question asking if the respondent had ever participated or known about an election for parents to serve as members of a parent advisory organization. Fourteen percent (14%) of those questioned said they had voted, and another 14 percent said they had known about an election. The rest neither voted in nor knew about an election. Parents of CE students voted in and knew of elections more often than parents of non-CE students. Voting in or knowing about elections for PACs seems to be greater in the South and West than elsewhere (see Figure 3-5).

SUMMARY

Nearly two out of three parents believe that some form of special class for the educationally disadvantaged is available at their children's schools. Awareness is greater among parents whose children have been selected for Title I or who attend a school funded by Title I. Further, where children have been selected for CE, parents are more likely to believe their children attend a special class than for any other subgroup studied. However, the data also suggest a misperception on the part of parents of poor or minority children who attend schools where no CE is present, or whose children have not been selected into a CE program. Indeed, a significantly larger proportion of these parents believe that their children have been selected for CE than is the case.

Forty percent of the parents claim to have heard of Title I and, of these, 40 percent can correctly describe Title I or give some indication as to its purpose. When people think of Title I, they generally think of reading programs. Parents whose children have been selected for Title I are generally aware that their children are participating in the program and rate such programs as extremely or very helpful. This is particularly true for poor parents.

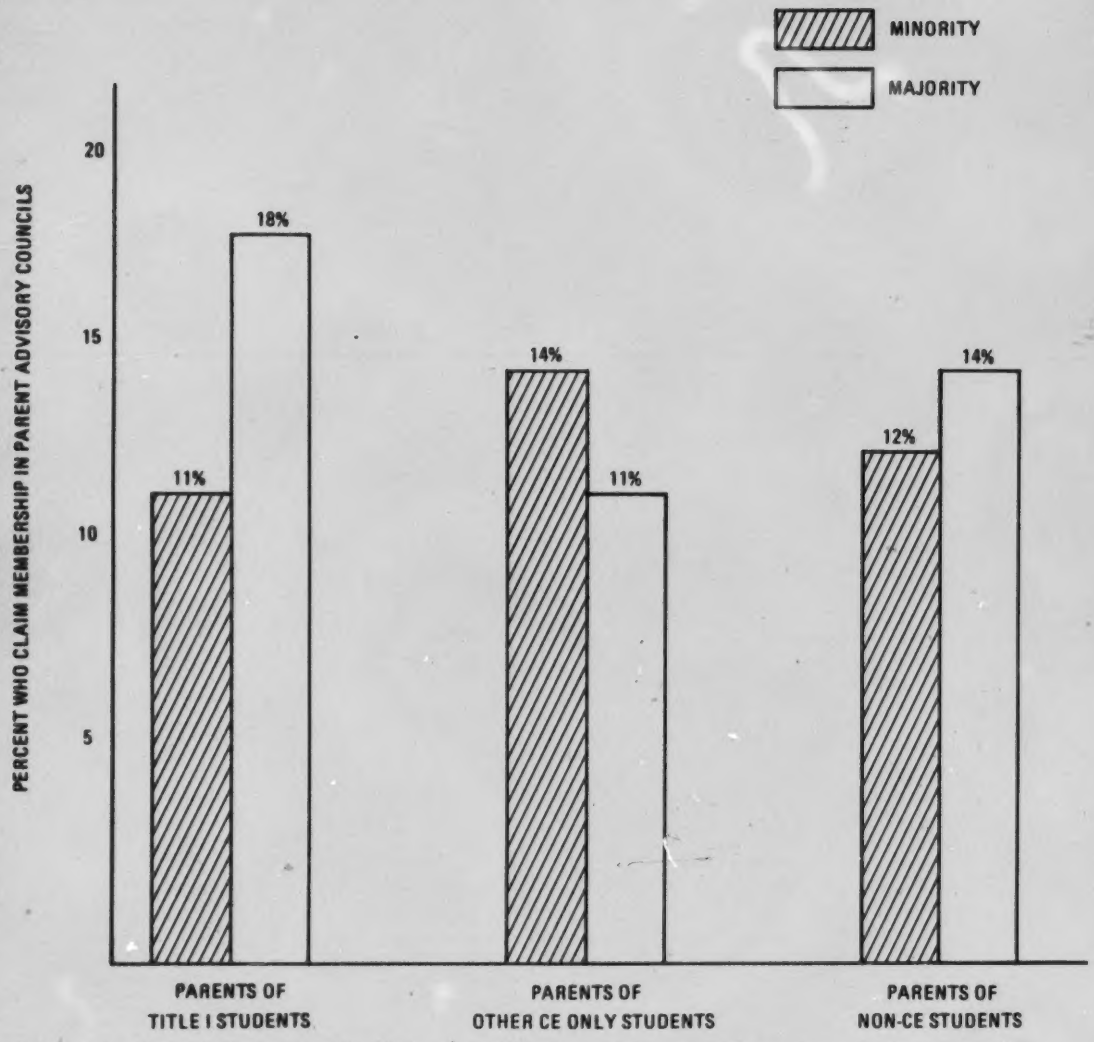

Figure 3-4 Percent of Parents who Claim to be Members of Parent Advisory Councils, by Student CE Selection Status and Ethnicity*

*Percentage Based on Those Who Know School Has a Parent Advisory Council.

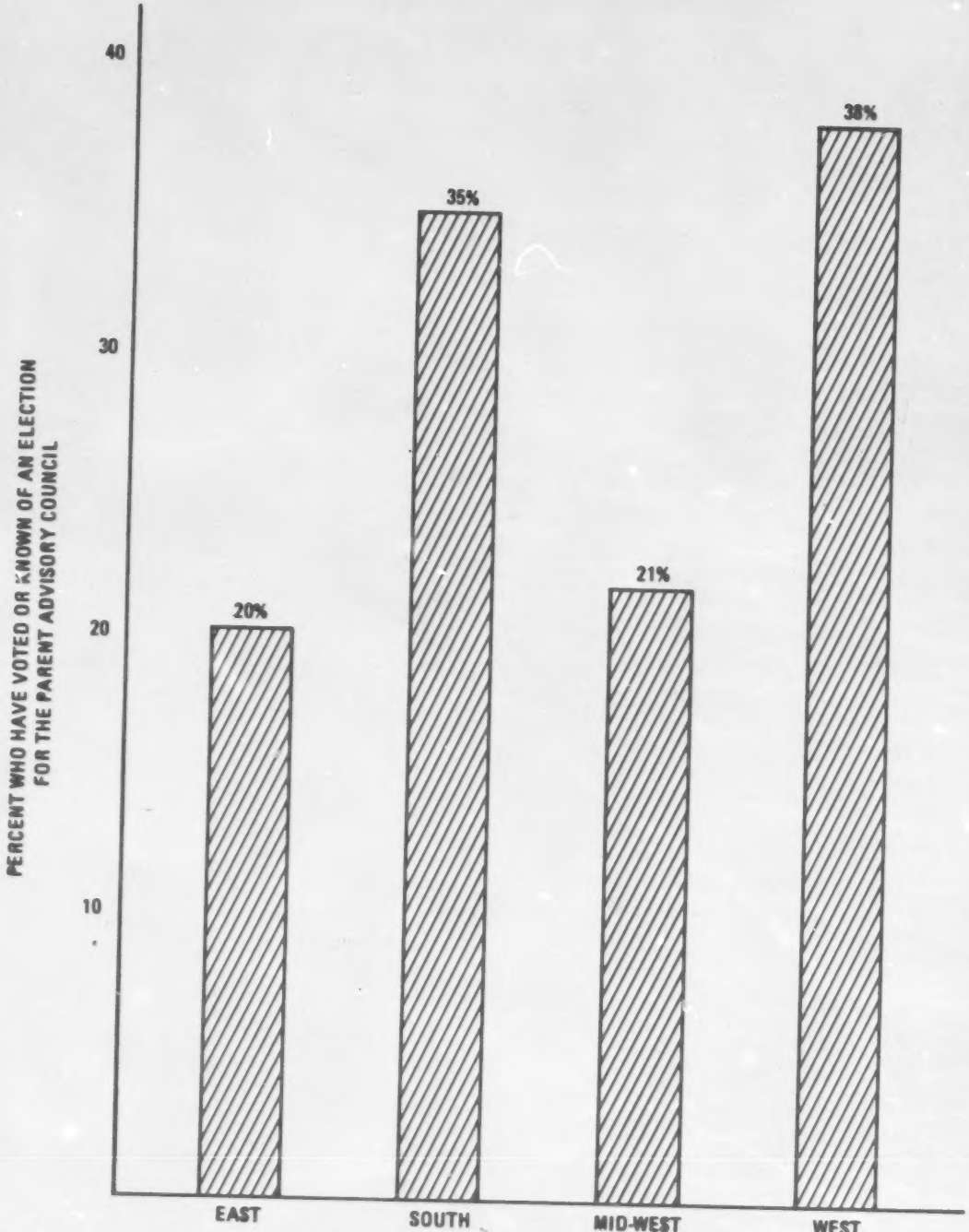

Figure 3-5 **Percent of Parents who Claim to Have Voted in or Known About an Election of a Parent Advisory Council, by Geographic Region***

*Percentage Based On Those Who Know School Has a Parent Advisory Council

Awareness of PACs is low. Many of those who claim to be aware of these special parent organizations cannot name them or do not have any idea as to their purpose and function. A group of about 14 percent of the parents in Title I schools are members of PACs. Another group of between 15 and 20 percent claim to have known of elections for PACs or to have friends or neighbors who are members of PACs.

Overall, it appears that a smalll group of parents (about 10 percent of the parents throughout the whole sample and 15 percent in Title I schools) have a high level of awareness of CE in general, and Title I in particular. Most others have a superficial awareness of CE programs, at best.

CHAPTER 4. PARENTAL INVOLVEMENT IN AND SATISFACTION WITH THEIR CHILDREN'S EDUCATIONS

This chapter presents data collected during the interviews with parents dealing with th parents' overall involvement in and satisfaction with their children's educations. The data ar generally tabulated according to student CE selection status and CE receipt category, with control for economic status. In the first part of the chapter a detailed analysis of the parents view of the parent-teacher conference is given. This is followed by a section dealing witl parental involvement in extracurricular school activities. Next comes the interaction in the home between the parent and the child concerning educational matters. Help with home- work, future educational expectations, and the availability of reading material, are some of the items analyzed. The fourth section presents an evaluation by parents of the quality of their children's educations. This last section includes data on what parents like most about their children's schools, and what single change they would make if given the opportunity.

PARENT-TEACHER CONFERENCES

Parents were asked how many personal conferences or meetings someone from the family had had with their children's teachers or principals during the school year up to the time of interview (Winter, 1977). Twenty-seven percent (27%) said that they had not yet had a parent-teacher conference. Forty-three percent (43%) claimed to have had one such confer- ence, with others claiming as many as two (16%), three (7%), and four or more (6%) parent-teacher conferences.

Data in Table 4-1 indicate that parents of Title I selectees are the most likely not to have had a parent-teacher conference (32%), and the least likely to have had only one parent-teacher conference (35%). On the other hand, parents of both Title I students and Other CE students are more likely to have had two or more conferences than parents of non-CE students. Across all selection categories it is apparent that poor parents are more likely than non-poor parents not to have had a parent-teacher conference.

Data in Table 4-2, which presents the number of parent-teacher conferences according to school CE receipt category, confirm the finding on the relationship between economic status and parent-teacher conferences. Poor families in each of the school categories are less likely than non-poor families to have attended parent-teacher conferences. There is little deviation according to a school's receipt of CE funds.

Figure 4-1 presents the number of parent-teacher conferences by ethnic groupings. Parents of minority students are more likely not to have attended a parent-teacher conference or to have attended no more than one conference. The parents of most majority students (47%) had attended only one conference at the time they were interviewed.

Figure 4-2 contributes more to understanding which parents are not likely to have had conferences with their children's teachers or principals. For each CE selection category,

Table 4-1

Parent-Teacher Conferences by Student CE Selection Status

	Student CE Selection Status								
	Title I Students			Other CE Students Only			Non CE Students		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Number of Parent-Teacher Conferences									
None	41.4 (334)	25.8 (299)	32.2 (633)	36.5 (143)	21.6 (217)	25.8 (360)	38.2 (678)	24.4 (2127)	26.7 (2805)
One	26.6 (214)	40.4 (463)	34.5 (677)	30.1 (118)	46.2 (464)	41.7 (582)	31.8 (564)	47.8 (4177)	45.1 (4741)
Two	15.8 (127)	17.4 (201)	16.7 (328)	20.7 (81)	19.2 (193)	19.6 (274)	16.1 (285)	15.8 (1376)	15.8 (1661)
Three	9.2 (74)	8.3 (96)	8.7 (170)	7.4 (29)	7.1 (71)	7.2 (100)	7.0 (125)	6.3 (550)	6.4 (675)
Four or More	7.1 (57)	8.5 (98)	7.9 (155)	5.4 (21)	5.9 (59)	5.7 (80)	6.9 (123)	5.7 (502)	5.9 (625)
N =	806	1157	1963	392	1004	1396	1775	8732	10507
Do You Expect A Personal Conference This Year?									
Yes	41.9 (140)	49.8 (149)	45.7 (289)	52.4 (75)	57.6 (125)	55.6 (200)	44.1 (299)	36.2 (769)	38.1 (1068)
No	40.7 (136)	34.8 (104)	37.9 (240)	32.9 (47)	30.9 (67)	31.7 (114)	41.0 (278)	52.8 (1122)	49.9 (1400)
Don't Know	17.4 (58)	15.4 (46)	16.4 (104)	14.7 (21)	11.5 (25)	12.8 (46)	14.9 (101)	11.1 (236)	12.0 (337)
N =	334	299	633	143	217	360	678	2127	2805

Table 4-1 (continued)

Why Do You Not Expect A Personal Conference This Year?									
Teacher Related Reasons	10.3 (14)	15.4 (16)	12.5 (30)	8.5 (4)	14.9 (10)	12.3 (14)	11.2 (31)	12.8 (144)	12.5 (175)
Student Doing Well	61.8 (84)	63.5 (66)	62.5 (150)	70.2 (33)	50.7 (34)	58.8 (67)	59.4 (165)	72.8 (817)	70.1 (982)
Conference of Little Value	6.6 (9)	3.8 (4)	5.4 (13)	2.1 (1)	6.0 (4)	4.4 (5)	3.2 (9)	2.8 (31)	2.9 (40)
Parent Can't Attend	11.0 (15)	10.6 (11)	10.8 (26)	10.6 (5)	22.4 (15)	17.5 (20)	16.5 (46)	7.6 (85)	9.4 (131)
No Reason Given	10.3 (14)	6.7 (7)	8.8 (21)	8.5 (4)	6.0 (4)	7.0 (8)	9.7 (27)	4.0 (45)	5.1 (72)
N =	136	104	240	47	67	114	278	1122	1400
How Conferences Are Usually Planned									
Teacher or Principal Calls	6.6 (40)	5.1 (51)	5.7 (91)	9.9 (32)	4.7 (43)	6.1 (75)	6.3 (87)	5.0 (365)	5.2 (452)
Note Sent Home	71.2 (433)	75.5 (754)	73.9 (1187)	74.9 (242)	83.2 (759)	81.1 (1001)	72.8 (1008)	75.7 (5570)	75.3 (6578)
Parent Asks For Meeting	17.4 (106)	14.5 (145)	15.6 (251)	9.3 (30)	9.3 (85)	9.3 (115)	15.4 (213)	13.0 (954)	13.4 (1167)
Sign Up At Open House	2.8 (17)	3.0 (30)	2.9 (47)	2.8 (9)	2.1 (19)	2.3 (28)	3.2 (44)	4.3 (316)	4.1 (360)
Other	2.0 (12)	1.9 (19)	1.9 (31)	3.1 (10)	.7 (6)	1.3 (16)	2.3 (32)	2.1 (152)	2.1 (184)
N =	608	999	1607	323	912	1235	1384	7357	8741

Table 4-1 (continued)

Are These Personal Conferences Helpful?									
Yes, Helpful	94.0 (565)	94.6 (947)	94.4 (1512)	95.7 (308)	94.9 (858)	95.1 (1166)	94.7 (1310)	94.7 (6950)	94.7 (8260)
No, Not helpful	6.0 (36)	5.4 (54)	5.6 (90)	4.3 (14)	5.1 (46)	4.9 (60)	5.3 (73)	5.3 (390)	5.3 (463)
N =	601	1001	1602	322	904	1226	1383	7340	8723
Would A Personal Conference Be Helpful?									
Yes Conference Would Be Helpful	63.8 (83)	64.3 (63)	64.0 (146)	65.9 (29)	63.6 (42)	64.5 (71)	57.6 (159)	59.1 (658)	58.8 (817)
No, Conference Would Not Be Helpful	36.2 (47)	35.7 (35)	36.0 (82)	34.1 (15)	36.4 (24)	35.5 (39)	42.4 (117)	40.9 (456)	41.2 (573)
N =	130	98	228	44	66	110	276	1114	1390
Who Attends Personal Conference?									
Child's Mother	82.7 (503)	77.4 (776)	79.4 (1279)	82.6 (266)	74.9 (682)	76.9 (948)	84.7 (1175)	76.0 (5594)	77.3 (6769)
Child's Father	5.3 (32)	6.6 (66)	6.1 (98)	4.0 (13)	5.7 (52)	5.3 (65)	4.6 (64)	4.5 (335)	4.6 (399)
Both Parents	6.7 (41)	14.5 (145)	11.5 (186)	10.2 (33)	18.0 (164)	16.0 (197)	7.1 (98)	18.8 (1384)	16.9 (1482)
Other Household Member	5.3 (32)	1.6 (16)	3.0 (48)	3.1 (10)	1.4 (13)	1.9 (23)	3.7 (51)	.7 (51)	1.2 (102)
N =	608	1003	1611	322	911	1233	1388	7364	8752

Table 4-1 (continued)

Reasons For A Personal Conference									
Discuss Child's Progress	51.6 (316)	59.7 (601)	56.6 (917)	62.0 (201)	62.8 (573)	62.6 (774)	56.8 (793)	58.0 (4280)	57.8 (5073)
Discuss Child's Problems	27.3 (167)	17.8 (179)	21.4 (346)	19.1 (62)	14.8 (135)	15.9 (197)	19.6 (273)	16.4 (1206)	16.9 (1479)
Discuss Grades & Test Scores	6.9 (42)	6.7 (67)	6.7 (109)	5.6 (18)	5.8 (53)	5.7 (71)	8.0 (112)	7.2 (531)	7.3 (643)
Exchange Information	10.9 (67)	13.3 (134)	12.4 (201)	9.9 (32)	14.6 (133)	13.3 (165)	13.0 (181)	16.9 (1248)	16.3 (1429)
Other/No Comment	3.3 (20)	2.6 (26)	2.8 (46)	3.4 (11)	2.0 (18)	2.3 (29)	2.7 (37)	1.5 (109)	1.7 (146)
N =	612	1007	1619	324	912	1236	1396	7374	8770

Table 4-2

Parent-Teacher Conferences by School CE Receipt Status

	School CE Receipt Category								
	Title I Schools			Other CE Schools Only			Non-CE Schools		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Number of Parent Teacher Conferences									
None	38.6 (892)	23.5 (1487)	27.5 (2379)	40.9 (183)	25.6 (814)	27.5 (997)	36.7 (80)	24.7 (343)	26.4 (423)
One	29.1 (671)	46.2 (2929)	41.7 (3600)	35.1 (157)	48.5 (1543)	46.9 (1700)	31.7 (69)	45.9 (636)	44.0 (705)
Two	17.5 (403)	16.4 (1041)	16.7 (1444)	13.2 (59)	15.7 (500)	15.4 (559)	14.2 (31)	16.5 (229)	16.2 (260)
Three	7.9 (183)	7.2 (453)	7.4 (636)	5.1 (23)	5.1 (175)	5.1 (198)	10.1 (22)	6.5 (90)	7.0 (112)
Four or More	6.9 (160)	6.7 (423)	6.7 (583)	5.6 (25)	4.7 (148)	4.8 (173)	7.3 (16)	6.3 (88)	6.5 (104)
N =	2309	6333	8642	447	3180	3627	218	1386	1604
Do You Expect A Personal Conference This Year?									
Yes	43.6 (389)	40.6 (603)	41.7 (992)	47.5 (87)	38.6 (314)	40.2 (401)	47.5 (38)	36.7 (126)	38.8 (164)
No	41.0 (366)	47.4 (705)	45.0 (1071)	35.5 (65)	49.3 (401)	46.7 (466)	37.5 (30)	54.8 (188)	51.5 (218)
Don't Know	15.4 (137)	12.0 (179)	13.3 (316)	16.9 (31)	12.2 (99)	13.0 (130)	15.0 (12)	8.5 (29)	9.7 (41)
N =	892	1487	2379	183	814	997	80	343	423

Table 4-2 (continued)

Why Do You Not Expect A Personal Conference This Year?									
Teacher Related Reasons	10.1 (37)	12.5 (88)	11.7 (125)	10.8 (7)	13.2 (53)	12.9 (60)	16.7 (5)	15.4 (29)	15.6 (34)
Student Doing Well	62.0 (227)	68.8 (485)	66.5 (712)	63.1 (41)	73.1 (293)	71.7 (334)	46.7 (14)	74.5 (140)	70.6 (154)
Conference of Little Value	4.9 (18)	3.5 (25)	4.0 (43)	.0 (0)	3.0 (12)	2.6 (12)	3.3 (1)	1.1 (2)	1.4 (3)
Parent Can't Attend	12.6 (46)	9.9 (70)	10.8 (116)	20.0 (13)	7.7 (31)	9.4 (44)	23.3 (7)	5.3 (10)	7.8 (17)
No Reason Given	10.4 (38)	5.2 (37)	7.0 (75)	6.2 (4)	3.0 (12)	3.4 (16)	10.0 (3)	3.7 (7)	4.6 (10)
N =	366	705	1071	65	401	466	30	188	218
How Conferences Are Usually Planned									
Teacher or Principal Calls	6.7 (121)	4.6 (249)	5.1 (370)	6.9 (24)	5.0 (134)	5.2 (158)	8.0 (14)	6.5 (76)	6.7 (90)
Note Sent Home	71.6 (1283)	77.3 (4194)	75.8 (5477)	78.5 (274)	77.8 (2085)	77.9 (2358)	73.0 (127)	69.2 (808)	69.7 (935)
Parent Asks For Meeting	16.3 (293)	12.5 (676)	13.4 (969)	9.7 (34)	12.1 (323)	11.8 (357)	12.6 (22)	16.0 (187)	15.6 (209)
Sign Up At Open House	2.7 (49)	3.8 (207)	3.5 (256)	4.0 (14)	3.2 (87)	3.3 (101)	4.0 (7)	6.1 (71)	5.8 (78)
Other	2.6 (47)	1.9 (103)	2.1 (150)	.9 (3)	1.8 (49)	1.7 (52)	2.3 (4)	2.1 (25)	2.2 (29)
N =	1793	5429	7222	349	2677	3026	174	1167	1341

Table 4-2 (continued)

Are These Personal Conferences Helpful									
Yes, Helpful	94.8 (1690)	95.0 (5142)	95.0 (6832)	95.1 (332)	94.9 (2537)	94.9 (2869)	92.6 (162)	92.8 (1081)	92.8 (1243)
No, Not Helpful	5.2 (93)	5.0 (269)	5.0 (362)	4.9 (17)	5.1 (137)	5.1 (154)	7.4 (13)	7.2 (84)	7.2 (97)
N =	1783	5411	7194	349	2674	3023	175	1165	1340
Would A Personal Conference Be Helpful									
Yes, Conference Would Be Helpful	60.8 (216)	62.0 (431)	61.6 (647)	61.5 (40)	55.7 (221)	56.5 (261)	50.0 (15)	59.4 (111)	58.1 (126)
No, Conference Would Not Be Helpful	39.2 (139)	38.0 (264)	38.4 (403)	38.5 (25)	44.3 (176)	43.5 (201)	50.0 (15)	40.6 (76)	41.9 (91)
N =	355	695	1050	65	397	462	30	187	217
Who Attends Personal Conference									
Child's Mother	83.8 (1503)	76.6 (4161)	78.4 (5664)	83.4 (291)	75.1 (2011)	76.0 (2302)	85.8 (151)	75.5 (883)	76.9 (1034)
Child's Father	4.5 (81)	4.9 (268)	4.8 (349)	5.2 (18)	4.6 (124)	4.7 (142)	5.7 (10)	5.2 (61)	5.3 (71)
Both Parents	7.7 (138)	17.5 (949)	15.0 (1087)	7.7 (27)	19.7 (528)	18.3 (555)	4.0 (7)	18.6 (218)	16.7 (225)
Other Household Member	4.0 (72)	1.0 (57)	1.8 (129)	3.7 (13)	.6 (16)	1.0 (29)	4.5 (8)	.6 (7)	1.1 (15)
N =	1794	5435	7229	349	2679	3028	176	1169	1345

Table 4-2 (continued)

Reasons For A Personal Conference									
Discuss Child's Progress	55.1 (996)	59.7 (3255)	58.6 (4251)	61.3 (215)	57.3 (1535)	57.7 (1750)	56.3 (99)	56.9 (665)	56.8 (764)
Discuss Child's Problems	21.8 (393)	16.1 (875)	17.5 (1268)	20.2 (71)	16.3 (437)	16.8 (508)	21.6 (38)	18.0 (210)	18.4 (248)
Discuss Grades & Test Scores	7.1 (129)	6.2 (338)	6.4 (467)	6.8 (24)	7.6 (204)	7.5 (228)	10.8 (19)	9.3 (109)	9.5 (128)
Exchange Information	12.6 (227)	16.2 (884)	15.3 (1111)	10.0 (35)	17.5 (468)	16.6 (503)	10.8 (19)	14.1 (165)	13.7 (184)
Other/No Comment	3.4 (61)	1.8 (97)	2.2 (158)	1.7 (6)	1.3 (36)	1.4 (42)	.6 (1)	1.7 (20)	1.6 (21)
N =	1806	5449	7255	351	2680	3031	176	1169	1345

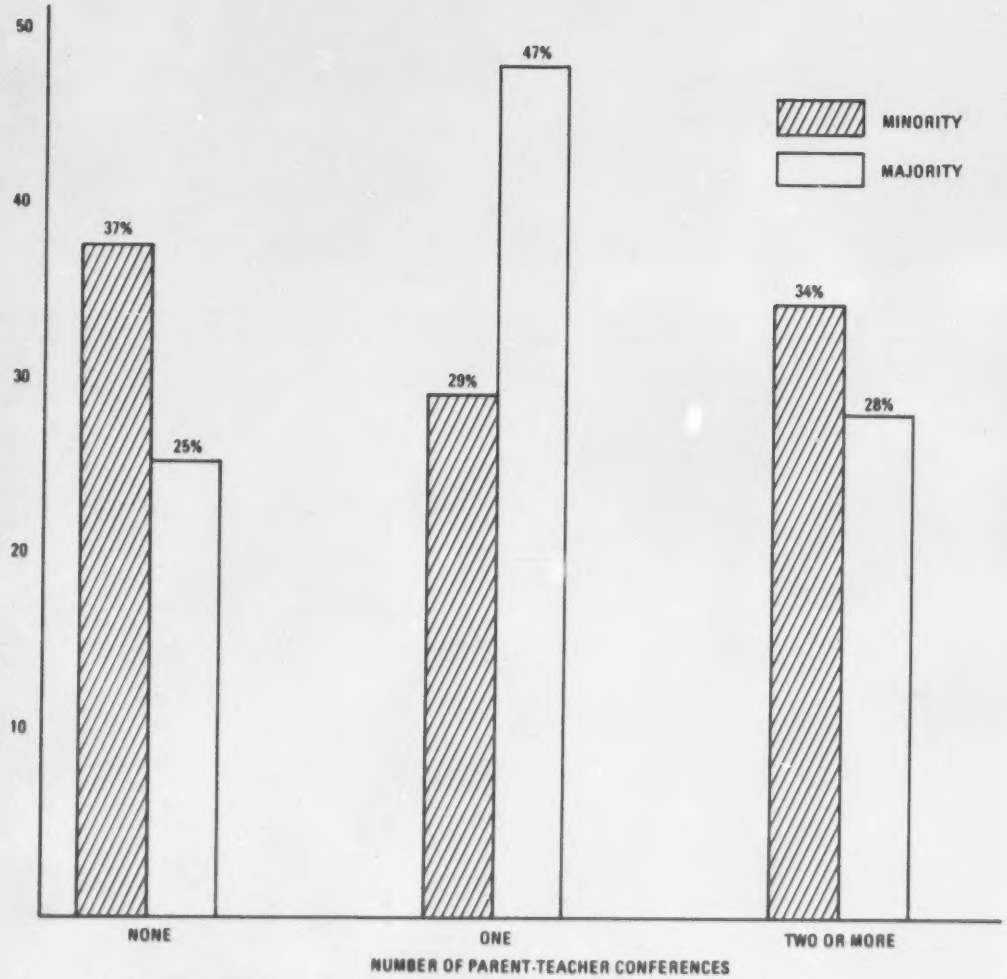

Figure 4-1 Number of Parent-Teacher Conferences, by Ethnicity

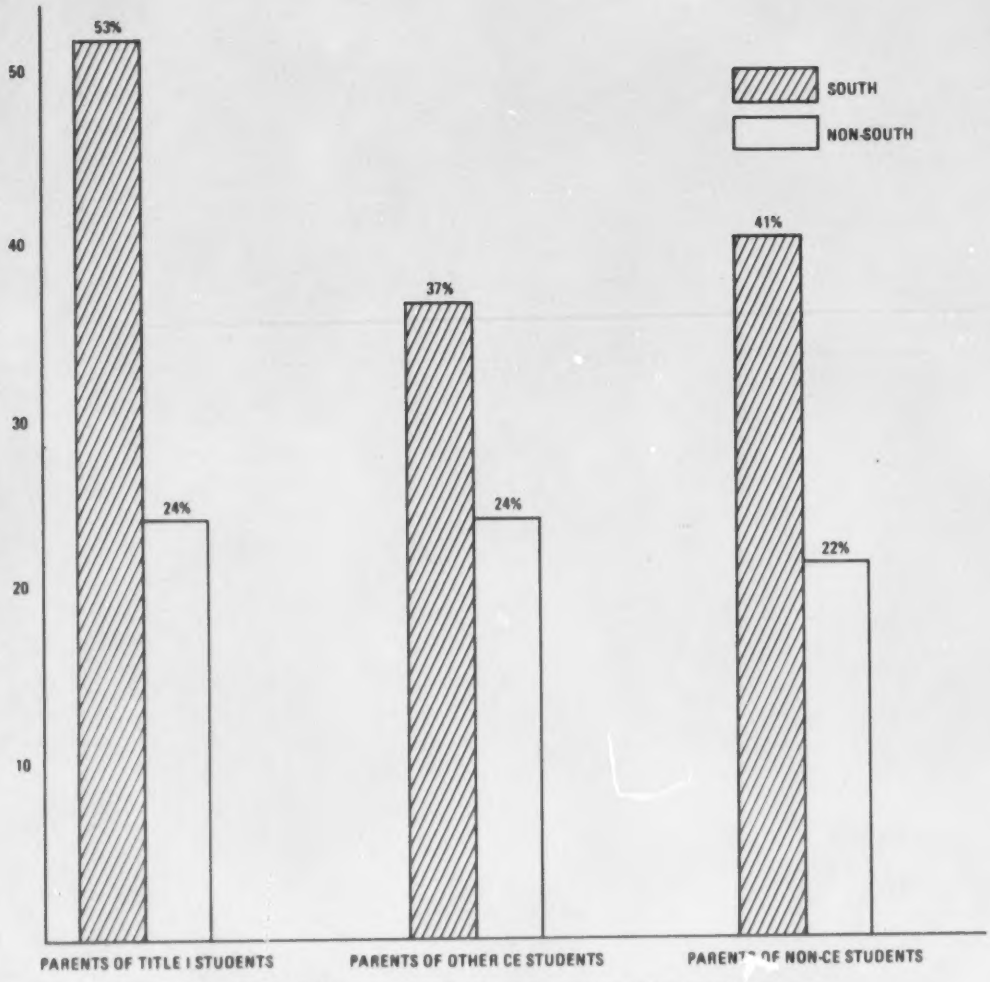

Figure 4-2 Percentage of Parents not Having a Parent-Teacher Conference, by Student CE Selection Status and Geographic Region

parents in the South are less likely to have had a parent-teacher conference than other parents. Outside the South, the percentage of parents not having parent-teacher conferences is similar (22% to 24%) for each CE selection category. In the South, however, the likelihood of not having a conference is related to student CE status. Parents of Title I students are the least likely to have had a conference.

Parents who had not had a parent-teacher conference were asked if they expected to have such a conference before the school year was over (see Table 4-1). Only 41 percent said yes, with a high percentage of parents of CE students (46% Title I and 56% Other CE) represented in this group. While parents of Title I students were the most likely not to have had a conference, they were also highly expectant of having such a conference. Again, economic status contributes to the response pattern. Non-poor parents are more likely to expect a conference than poor parents, except among non-CE students, where more poor parents had expectations of a conference.

The pattern is slightly different when school CE receipt categories are analyzed. In all schools, parents who are poor are more likely than parents who are non-poor to expect a parent-teacher conference. Hence, it appears that high expectations for parent-teacher conferences are centered in parents of poor students.

Parents who did not expect a parent-teacher conference were asked why. The largest group (68%) said that it was because their children were doing well and they saw no need for a conference. Most of the people giving this reason were non-poor, and parents of non-CE students. However, well over half of the parents of Title I and Other CE selectees also gave this response.

About 60 percent of the parents not expecting a parent-teacher conference indicated that such a conference would be helpful. Data in Table 4-1 reveal that parents of CE students were more likely to say that such a conference would be helpful than would parents of non-CE children. In Table 4-2 it can be seen that this sentiment is focused most directly in Title I schools.

Parents who did attend the conferences were asked which family member represented them at the meeting. In the largest majority of cases (78%) the mother attends. The pattern does not vary greatly by student or school CE status, but it does by economic status. In poor families, the mother is more likely to attend than in non-poor families. Contributing to this is the large number of single-parent, female-headed households where total income is below the poverty line.

Only about 5 percent of the fathers attend parent-teacher conferences alone. This figure is constant across all economic and CE categories. Attendance by both parents occurs for about 16 percent of the households, and these are generally non-poor households. In less than 2 percent of the cases, household members other than the mother or father attend the meetings, and these are more likely to represent poor families than non-poor families.

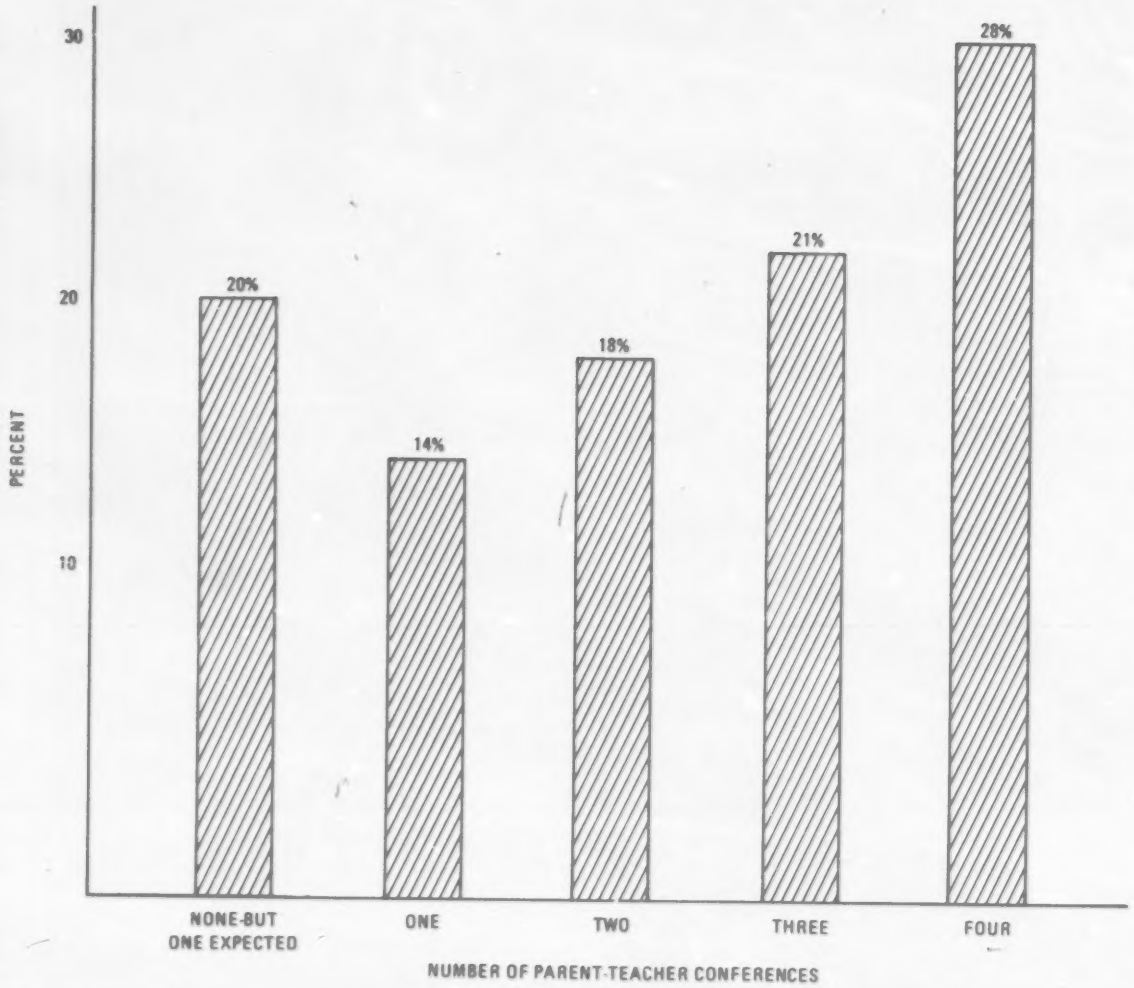

Figure 4-3 Parents who Indicate Parent-Teacher Conferences are to Discuss Student Problems, by Number of Parent-Teacher Conferences Held

Parents were also asked to indicate the reasons they perceived for the holding of parent-teacher conferences. Most parents indicated the conferences were to review their children's progress. This response was given fairly consistently by parents of all students. To discuss their children's problems was the next most frequently mentioned response (17%), more often cited by poor parents than by non-poor parents.

Figure 4-3 indicates that there is a relationship between the number of parent-teacher conferences held and the reasons for the conferences. Generally, as the number of conferences increases, so does the percentage indicating that the conferences are to discuss a child's problems rather than progress or achievement.

Parents are usually informed of parent-teacher conferences by a note sent home with their children. About 75 percent of the parents said this was the method usually used. The pattern is consistent across CE selection status. The second most frequently mentioned means of setting up the parent-teacher conference was that it was done at the request of the parents. Almost all parents believe that parent-teacher conferences are helpful.

EXTRA-SCHOOL ACTIVITIES

Parents were asked whether or not adult members of the family attended extra-curricular school activities, such as school plays or science fairs put on by the children. Most parents (77%) responded affirmatively. Responses seem to be related to CE selection and economic status. More parents of students not selected for CE indicated attendance at extra-school activities than families of CE selectees. A larger difference, however, is between the poor and the non-poor. For each student and school selection category (see Tables 4-3 and 4-4), fewer poor families attend these school events than non-poor families. Parents from poor families who have children in Title I programs are the least likely to attend school activities. This further underscores the point that Title I students, especially if they are poor, receive the least amount of in-home support for their education.

Parents were also asked if their children participate in these activities. Sixty percent of the parents said that their children participate, a figure much lower than that given for adult attendance. Student participation, as perceived by the parents, is slightly higher for students not selected for CE. This parallels the situation for adult attendance. Also, similar to the situation for parental attendance is the relationship to economic status. Poor children participate less frequently than non-poor children.

The final item in Tables 4-3 and 4-4 is a variable that combines the adults' attendance at and the children's participation in extra-school activities. The major relationship apparent in the tables is between economic status and involvement in school activities. Non-poor families are more likely to have adults attend and children take part in extra school events.

The responses of minority parents closely parallel those of poor parents in this regard (Tables 4-5 and 4-6). However, while there is a rather large gap by ethnicity between parents of Title I students in attendance at school events (minority 64%, majority 76%), the gap between students participating in such activities is not nearly so great (minority 58%, majority 60%).

Table 4-3

Extra-School Activities by Student CE Selection and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Families Where An Adult Member Attends Extra-School Activities	60.5 (488)	78.6 (910)	71.2 (1398)	64.8 (254)	75.6 (758)	72.5 (1012)	66.2 (1176)	81.7 (7124)	79.1 (8300)
Families Where Child Participates In Extra-School Activities	52.9 (424)	63.9 (740)	59.4 (1164)	49.2 (192)	52.7 (528)	51.8 (720)	53.2 (943)	62.5 (5453)	61.0 (6396)
Families Where Adult Member Attends and Child Participates in Extra-School Activities	44.0 (353)	58.7 (679)	52.7 (1032)	41.8 (163)	49.8 (498)	47.5 (661)	45.6 (808)	59.2 (5158)	56.9 (5966)

Table 4-4

Extra-School Activities by School CE Receipt and Economic Status

	School CE Receipt Category								
	Title I Schools			Other CE Schools Only			Non CE Schools		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Families Where An Adult Member Attends Extra-School Activities	63.4 (1465)	81.3 (5146)	76.5 (6611)	66.4 (297)	79.8 (2531)	78.1 (2828)	71.6 (156)	80.9 (1120)	79.6 (1276)
Families Where Child Participates In Extra-School Activities	51.9 (1195)	63.5 (4020)	60.4 (5215)	52.9 (236)	58.6 (1861)	57.9 (2097)	59.4 (129)	61.0 (843)	60.8 (972)
Families Where Adult Member Attends and Child Participates in Extra-School Activities	43.9 (1011)	59.8 (3783)	55.6 (4794)	45.1 (201)	55.8 (1767)	54.4 (1968)	51.6 (112)	57.1 (788)	56.4 (900)

Table 4-5

Extra-School Activities by Student CE Selection Status and Ethnicity

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Minority %	Majority %	Total %	Minority %	Majority %	Total %	Minority %	Majority %	Total %
Families Where An Adult Member Attends Extra-School Activities	63.8 (512)	76.0 (904)	71.1 (1416)	65.8 (314)	75.7 (719)	72.4 (1033)	64.1 (1229)	82.3 (7204)	79.0 (8433)
Families Where Child Participates in Extra-School Activities	57.9 (464)	60.2 (714)	59.3 (1178)	50.7 (241)	52.5 (498)	51.9 (739)	51.4 (985)	63.0 (5518)	60.9 (6503)

Table 4-6

Extra-School Activities by School CE Receipt Category and Economic Status

	School CE Receipt Category								
	Title I Schools			Other CE Schools Only			Non CE Schools		
	Minority %	Majority %	Total %	Minority %	Majority %	Total %	Minority %	Majority %	Total %
Families Where An Adult Member Attends Extra-School Activities	65.0 (1533)	80.7 (5191)	76.5 (6724)	60.2 (327)	81.2 (2546)	78.1 (2873)	66.7 (196)	81.9 (1095)	79.2 (1291)
Families Where Child Participates In Extra-School Activities	54.2 (1278)	62.6 (4025)	60.4 (5303)	47.2 (257)	59.9 (1879)	58.1 (2136)	52.7 (155)	62.3 (830)	60.6 (985)

IN-HOME EDUCATIONAL ACTIVITIES

Parents were asked how often their children brought schoolwork and projects home. Responses ranged from every day to never. About 31 percent of the parents said their children brought work home daily. Twenty-six percent (26%) said two or three times a week. Slightly fewer (13%) said their children brought home schoolwork about once a week. The rest said that it was only once a month or so that their children brought home such work (21%) or that the children never brought any work home (9%).

Tables 4-7 and 4-8 present these data in terms of student and school selection status and economic status. Title I students and students in Title I schools are more likely to bring schoolwork home every day than other students. Also, in each CE category, poor students are more likely than non-poor students to bring home schoolwork on a more frequent basis.

Parents were also asked how often someone in the family helped their children with the schoolwork brought home in the month prior to the interview. The responses, by CE status and economic status, are revealing. Forty percent (40%) of the parents of Title I students indicated they helped their children very often with homework, compared to 36 percent for parents of Other CE students and 32 percent for parents of non-CE students. However, for Title I students there is a significant difference between the poor and non-poor. Poor parents are less likely (36%) to help their children very often than non-poor parents (42%). This difference does not exist for other students. So, the students indicated by their parents as bringing home schoolwork the most often (poor, Title I selectees) are the least likely to receive frequent assistance from someone in the family. Again, this reinforces the general theme uncovered by the Participation Study that Title I students, especially if they are from poor families, have a home environment that is less supportive of educational progress.

This finding is further supported by the data, presented in Table 4-9, where the household member who helps with various homework assignments is listed. For each of the subjects and CE categories, poor children are more likely than non-poor children to have no one help them with their work, or to have someone other than their father or mother help them. In the latter case, it is most frequently a brother or sister who helps. In Chapter 2, the effect of the homework index on achievement was discussed. Part of that index shows who helps with homework, for it was found that when no one helps, or someone other than the mother or father helps, achievement is low. Hence, CE students in general, and poor CE students in particular, are the least likely to receive help from the people whose help makes the most difference, the parents.

Another point of interest is that the father helps more frequently with math and science than he does with other subjects. While this holds across all student CE categories, there is an increase in father-help in math and science from category to category, starting with Title I (14%), and going to Other CE (19%) and non-CE (25%) students. In each case, non-poor fathers are more likely to help than poor fathers. Again, contributing to this is the large number of poor families without fathers present.

Table 4-7

Homework Activities by Student CE Selection Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Frequency of Child Bringing Home Schoolwork									
Every Day	38.3 (309)	32.6 (378)	35.0 (687)	36.5 (143)	26.1 (262)	29.0 (405)	35.0 (621)	29.5 (2579)	30.5 (3200)
Two or Three Times A Week	25.7 (207)	26.4 (306)	26.1 (513)	31.6 (124)	28.9 (290)	29.7 (414)	25.9 (460)	25.8 (2254)	25.8 (2714)
Once A Week	10.5 (85)	12.8 (148)	11.9 (233)	9.2 (36)	11.9 (119)	11.1 (155)	10.6 (188)	13.7 (1200)	13.2 (1388)
Once A Month	16.4 (132)	18.9 (219)	17.9 (351)	14.8 (58)	23.3 (234)	20.9 (292)	18.8 (334)	22.6 (1969)	21.9 (2303)
Never: Does All Work At School	9.1 (73)	9.3 (108)	9.2 (181)	7.9 (31)	9.8 (98)	9.2 (129)	9.7 (172)	8.3 (728)	8.6 (900)
N =	806	1159	1965	392	1003	1395	1775	8730	10505
Frequency of Child Getting Help on Schoolwork									
Very Often	35.9 (289)	42.2 (489)	39.6 (778)	34.7 (136)	36.0 (361)	35.6 (497)	33.9 (602)	31.5 (2751)	31.9 (3353)
Somewhat Often	28.4 (229)	26.9 (312)	27.5 (541)	27.0 (106)	27.5 (276)	27.4 (382)	25.4 (451)	28.2 (2462)	27.8 (2913)
Not Very Often	23.7 (191)	19.8 (230)	21.4 (421)	25.0 (98)	24.6 (247)	24.7 (345)	27.1 (480)	29.1 (2534)	28.7 (3014)
Never	6.0 (48)	4.7 (55)	5.2 (103)	8.7 (34)	5.2 (52)	6.2 (86)	7.6 (134)	5.3 (461)	5.7 (595)
No Schoolwork Brought Home	6.1 (49)	6.3 (73)	6.2 (122)	4.6 (18)	6.7 (67)	6.1 (85)	6.0 (107)	5.9 (513)	5.9 (620)
N =	806	1159	1965	392	1003	1395	1774	8721	10495

Table 4-8

Homework Activities by School CE Receipt Category and Economic Status

	School CE Receipt Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Frequency of Child Bringing Home Schoolwork									
Every Day	39.0 (901)	31.0 (1964)	33.2 (2865)	24.4 (109)	26.6 (845)	26.3 (934)	28.9 (63)	29.7 (412)	29.6 (475)
Two or Three Times A Week	25.9 (597)	24.8 (1572)	25.1 (2169)	28.9 (129)	27.6 (878)	27.8 (1007)	29.8 (65)	28.9 (400)	29.0 (465)
Once A Week	9.4 (218)	12.9 (820)	12.0 (1038)	14.1 (63)	14.2 (453)	14.2 (516)	12.8 (28)	14.2 (196)	14.0 (224)
Once A Month	16.5 (382)	22.2 (1406)	20.7 (1788)	21.0 (94)	23.1 (736)	22.9 (830)	22.5 (49)	20.3 (281)	20.6 (330)
Never: Does All Work At School	9.1 (211)	9.0 (571)	9.0 (782)	11.6 (52)	8.4 (268)	8.8 (320)	6.0 (13)	6.9 (96)	6.8 (109)
N =	2309	6333	8642	447	3180	3627	218	1385	1603
Frequency of Child Getting Help on Schoolwork									
Very Often	34.2 (789)	33.1 (2098)	33.4 (2887)	33.4 (149)	30.5 (968)	30.8 (1117)	40.8 (89)	38.9 (538)	39.1 (627)
Somewhat Often	25.7 (593)	27.6 (1746)	27.1 (2339)	29.1 (130)	29.4 (934)	29.4 (1064)	28.9 (63)	26.8 (371)	27.1 (434)
Not Very Often	27.2 (629)	27.6 (1749)	27.5 (2378)	22.9 (102)	28.5 (905)	27.8 (1007)	17.4 (38)	25.9 (359)	24.8 (397)
Never	7.7 (177)	5.6 (357)	6.2 (534)	5.4 (24)	4.8 (151)	4.8 (175)	7.3 (16)	4.3 (60)	4.7 (76)
No Schoolwork Brought Home	5.2 (121)	6.0 (379)	5.8 (500)	9.2 (41)	6.9 (218)	7.2 (259)	5.5 (12)	4.0 (56)	4.2 (68)
N =	2309	6329	8638	446	3176	3622	218	1384	1602

Table 4-9

Homework Help by Student CE Selection Status and Economic Status

	Student CE Selection Status*								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Who Helps Child With Reading, Spelling and English?									
No One	12.5 (87)	6.8 (68)	9.1 (155)	10.1 (40)	8.0 (76)	8.6 (116)	11.1 (208)	7.3 (652)	8.0 (860)
Father	5.5 (38)	8.7 (87)	7.4 (125)	5.8 (23)	10.1 (96)	8.8 (119)	5.3 (100)	9.7 (871)	9.0 (971)
Mother	52.7 (367)	68.6 (687)	62.0 (1054)	49.0 (195)	61.7 (588)	58.0 (783)	59.2 (1113)	72.1 (6440)	69.8 (7553)
Others	29.4 (205)	16.0 (160)	21.5 (365)	35.2 (140)	20.3 (193)	24.6 (333)	24.4 (458)	10.9 (972)	13.2 (1430)
N =	697	1002	1699	398	953	1351	1879	8935	10814
Who Helps Child With Math and Science?									
No One	7.9 (35)	6.2 (32)	7.0 (67)	10.4 (33)	9.3 (70)	9.6 (103)	9.1 (202)	6.4 (620)	6.9 (822)
Father	8.8 (39)	18.4 (95)	14.0 (134)	11.6 (37)	21.8 (164)	18.8 (201)	11.2 (247)	28.4 (2731)	25.2 (2978)
Mother	47.6 (210)	51.8 (268)	49.9 (478)	41.5 (132)	46.9 (353)	45.3 (485)	47.9 (1061)	49.3 (4745)	49.0 (5806)
Other	35.6 (157)	23.6 (122)	29.1 (279)	36.5 (116)	21.9 (165)	26.3 (281)	31.8 (705)	15.9 (1527)	18.9 (2232)
N =	441	517	958	318	752	1070	2215	9623	11838

Table 4-9 (continued)

Who Helps Child With Social Studies and Geography?									
No One	15.7 (126)	10.6 (122)	12.7 (248)	10.2 (40)	8.4 (84)	8.9 (124)	13.3 (235)	9.6 (831)	10.2 (1066)
Father	3.9 (31)	9.9 (114)	7.4 (145)	4.6 (18)	10.9 (109)	9.1 (127)	6.6 (116)	15.5 (1344)	14.0 (1460)
Mother	24.6 (197)	38.2 (440)	32.6 (637)	28.1 (110)	33.7 (336)	32.1 (446)	35.2 (621)	41.5 (3592)	40.4 (4213)
Other	55.8 (447)	41.3 (476)	47.3 (923)	57.0 (223)	47.0 (469)	49.8 (692)	44.8 (790)	33.4 (2891)	35.3 (3681)
N =	801	1152	1953	391	998	1389	1762	8658	10420

*For Reading help CE Status refers to Reading CE Status; For Math help to Math CE Status and for Social Studies to a combined Reading or Math CE Status.

Table 4–10

Number of Books In Home by Student CE Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Number of Books In The Home Which The Child Can Read									
None/Doesn't Read	17.8 (143)	9.9 (115)	13.1 (258)	17.6 (69)	7.1 (71)	10.0 (140)	12.0 (214)	3.1 (272)	4.6 (486)
1 – 10	50.6 (407)	28.6 (332)	37.6 (739)	42.3 (166)	25.0 (251)	29.9 (417)	37.0 (657)	15.5 (1357)	19.2 (2014)
11 – 30	20.2 (163)	30.6 (355)	26.4 (518)	26.5 (104)	28.7 (288)	28.1 (392)	25.5 (452)	29.0 (2531)	28.4 (2983)
31 – 50	6.0 (48)	14.6 (169)	11.0 (217)	6.9 (27)	13.0 (131)	11.3 (158)	9.5 (169)	17.5 (1526)	16.1 (1695)
51 and Over	5.5 (44)	16.2 (188)	11.8 (232)	6.6 (26)	26.2 (263)	20.7 (289)	16.0 (284)	34.8 (3041)	31.7 (3325)
N =	805	1159	1964	392	1004	1396	1776	8727	10503

Parents were asked how many books were in their home that their children could read without help. A small part of the sample (6%) indicated that they did not have any books that their children could read. Other responses indicated a wide range in the number of books: between one and ten (23%), between 11 and 30 (28%), between 31 and 50 (15%), and over 50 (28%). Data in Table 4-10 indicate that students selected for Title I have significantly fewer books than students in Other CE programs or non-CE categories. Economic status is also a major factor. Poor Title I selectees have fewer books that they can read available in the home than non-poor Title I selectees.

Another area that contributes to the educational climate in the home is the expectation a parent holds for the child's future educational activities. Parents were asked about the highest grade of school or educational level they expected their children to attain. Most thought their children would at least go to college: some college (15%), college graduate (36%), and post-graduate (5%). The rest expected a high-school education for their children (42%), with a small group (2%) anticipating that their children would not complete high school. Table 4-11 presents data analyzing parental responses by CE selection status and economic status.

Among Title I selectees, the parental expectation for ultimate educational attainment is high school graduation. Significantly fewer parents of Title I selectees believe that their children will have any college experience, especially when compared to parents of children not selected for any CE. Again, economic status contributes to parental attitudes. Poor parents have lower expectations for their children than non-poor parents.

An interesting trend appears among Title I parents when ethnicity is examined. Minority parents have higher expectations than majority parents. Forty-seven percent (47%) of the parents of minority Title I students anticipate some level of college education for their children, compared to 31 percent for the parents of majority Title I selectees.

When the gender of the child is considered, there is no difference in the expectations of parents of CE students (See Table 4-12). However, for the parents of non-CE students, there is a difference. The parents of female students have slightly lower expectations for their daughters than parents of male students have for their sons. Almost 48 percent of the parents of male children expect them to graduate from college and/or go on to post-graduate work. For parents of female students, the figure is between 42 and 43 percent, which is a statistically significant difference.

QUALITY OF EDUCATION

Parents were asked several questions about their opinions of the quality of schooling their children were receiving (Table 4-13). The parents were asked to rate, on a scale of excellent-to-poor, the overall quality of education their children received. Most parents rated the overall education of their children as good (53%). Almost 32 percent gave the higher rating of excellent. Hence, most parents seemed to be expressing satisfaction with their children's schooling. A few parents, however, did rate the quality of education as either fair (13%) or poor (2%).

Table 4–11

Parental Expectations For Childrens' Education by Student CE Selection Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Parental Expectations For Child's Attained Educational Level									
Less Than High School	5.7 (46)	3.1 (36)	4.2 (82)	5.4 (21)	1.5 (15)	2.6 (36)	3.6 (63)	.7 (59)	1.2 (122)
High School	62.7 (504)	55.1 (638)	58.2 (1142)	59.7 (233)	44.4 (444)	48.7 (677)	57.8 (1023)	34.4 (3003)	38.4 (4026)
Some College	12.7 (102)	15.2 (176)	14.2 (278)	12.6 (49)	17.6 (176)	16.2 (225)	14.5 (257)	15.7 (1371)	15.5 (1628)
College Graduate	17.3 (139)	23.9 (277)	21.2 (416)	20.3 (79)	32.4 (324)	29.0 (403)	22.1 (391)	43.0 (3751)	39.5 (4142)
Post Graduate	1.6 (13)	2.6 (30)	2.2 (43)	2.1 (8)	4.2 (42)	3.6 (50)	2.1 (37)	6.2 (539)	5.5 (576)
N =	804	1157	1961	390	1001	1391	1771	8723	10494

Table 4–12

Parental Expectations for Children's Education by Student CE Selection Status and Sex of Student

	Student CE Selection Status								
	Table I			Other CE Only			No-CE*		
	Female %	Male %	Total %	Female %	Male %	Total %	Female %	Male %	Total %
Parental Expectations For Child's Attained Educational Level									
Less Than High School	3.1 (27)	4.9 (55)	4.1 (82)	2.5 (16)	2.8 (22)	2.7 (38)	1.0 (56)	1.2 (62)	1.1 (118)
High School	59.4 (513)	57.6 (645)	58.4 (1158)	50.0 (317)	48.1 (376)	48.9 (693)	39.2 (2092)	37.3 (1972)	38.3 (4064)
Some College	15.4 (133)	13.1 (147)	14.1 (280)	17.5 (111)	15.1 (118)	16.2 (229)	17.2 (915)	13.9 (734)	15.5 (1649)
College Graduate	20.0 (173)	21.9 (245)	21.1 (418)	27.8 (176)	29.3 (229)	28.6 (405)	38.4 (2050)	40.7 (2151)	39.6 (4201)
Post-Graduate	2.0 (17)	2.4 (27)	2.2 (44)	2.2 (14)	4.7 (37)	3.6 (51)	4.1 (221)	6.9 (364)	5.5 (585)
N =	863	1119	1982	634	782	1416	5334	5283	10617

*Chi Square for No-CE category = 60.85 $\rho > .01$

Table 4–13

Quality of Schooling by Student CE Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor /AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
Parental Rating of Quality of Child's School									
Excellent	21.9 (176)	27.3 (314)	25.1 (490)	26.9 (105)	28.8 (287)	28.2 (392)	28.3 (501)	34.8 (3029)	33.7 (3530)
Good	54.7 (439)	51.6 (593)	52.8 (1032)	52.7 (206)	53.3 (532)	53.1 (738)	53.0 (937)	52.7 (4583)	52.7 (5520)
Fair	20.2 (162)	17.7 (203)	18.7 (365)	16.6 (65)	14.4 (144)	15.0 (209)	15.3 (270)	10.9 (953)	11.7 (1223)
Poor	3.2 (26)	3.5 (40)	3.4 (66)	3.8 (15)	3.5 (35)	3.6 (50)	3.4 (61)	1.6 (139)	1.9 (200)
N =	803	1150	1953	391	998	1389	1769	8704	10473

Examination of the overall rating in terms of CE selection status and economic status reveals some differences of opinion among parents. Parents of Title I students give the lowest excellent rating (25%) and the highest fair-poor rating (22%). Parents of Other CE students give a slightly higher excellent rating (28%) and lower fair-poor rating (18%). The highest excellent rating comes from the parents of children not selected for CE (34%), and these parents also give the lowest fair-poor rating (14%).

Parents of poor children give lower ratings to the quality of their children's educations than parents of non-poor children in each CE category. The lowest ratings are with poor parents of Title I selectees, followed by poor parents of Other CE selectees. Data in Table 4-14 confirm the difference in evaluation between the poor and the non-poor, but indicate that parents of children in Title I schools and parents of children in Other CE schools give slightly higher excellent ratings (32% and 33%) than parents of children in non-CE schools (29%).

Parents were also asked what they like most about their children's schools, and what one change they would make in the schools if they had the opportunity. The general responses to these two questions are found in Tables 4-15 and 4-16. The most frequently mentioned item that the parents liked most about the schools dealt with the teachers and staff. Forty-two percent (42%) of those interviewed indicated that they liked the teachers and staff, the teacher-student relationships, and the teacher-parent relationships.

The next most frequently mentioned area had to do with the schools' locations, physical facilities, and transportation systems. The convenience of the location was important to many parents, and was the third most frequently mentioned single item overall. The classroom set-up was mentioned by about 10 percent of the parents.

Generally, class size was the most important element in this category, but many parents did mention the 'open' classroom structure. Some parents were pleased with the more structured, closed classrooms in their children's schools, so opinions were not unanimous in the area of open or closed classrooms.

Academic programs were mentioned by only 6 percent of the parents overall. Most important among these were special attention to learning problems and special attention to reading, spelling and speech programs. About 8 percent of the parents had nothing specific they could say about what they liked most in their children's schools.

Answers to the question of what one change parents would make in their children's schools reflect concerns with the teachers and staff, the classroom set-up, facilities, transportation, the organization and administration of the school, academic programs, discipline, and safety. However, the largest single group of parents indicated that no change was necessary (26%). Most of the categories mentioned for change parallel those mentioned for what the parents liked most about the school. However, two categories stand out as not being cast in positive terms: school organization and administration, plus discipline and safety. Few, if any, parents mentioned these areas as what they liked best, but collectively these two categories drew the response of 15 percent of the parents when it came to a change they would like to make.

Table 4–14

Quality of Schooling by School CE Status and Economic Status

	School CE Receipt Category								
	Title I Schools			Other CE Schools Only			Non CE Schools		
	Poor/AFDC	Non-Poor	Total	Poor/AFDC	Non-Poor	Total	Poor/AFDC	Non-Poor	Total
Parental Rating of Quality of Child's School									
Excellent	26.3 (606)	34.1 (2152)	32.0 (2758)	27.8 (124)	33.7 (1068)	33.0 (1192)	23.9 (52)	29.7 (410)	28.9 (462)
Good	53.2 (1224)	51.5 (3248)	52.0 (4472)	55.4 (247)	54.7 (1733)	54.8 (1980)	51.4 (112)	52.9 (731)	52.7 (843)
Fair	16.9 (389)	12.4 (780)	13.6 (1169)	14.1 (63)	10.1 (321)	10.6 (384)	20.6 (45)	14.5 (201)	15.4 (246)
Poor	3.5 (81)	2.0 (126)	2.4 (207)	2.7 (12)	1.5 (48)	1.7 (60)	4.1 (9)	2.9 (40)	3.1 (49)
N =	2300	6306	8606	446	3170	3616	218	1382	1600

Table 4-15

What Parents Like Most About Their Children's Schools

	Percent
The Teachers and Staff	
Teachers and Staff (20.0%)	42.1
Teacher – Child Relationships (16.6%)	
Teacher – Parent Relationship (5.5%)	
Classroom Set-Up	
Open Classroom (3.2%)	10.3
Small Classes (6.2%)	
Structured Classes (0.8%)	
Number of Classes (0.1%)	
Location, Physical Facilities and Transportation	
Convenient Location (12.6%)	17.1
Physical Facilities (3.3%)	
Lunch Program (1.0%)	
Bus Transportation (0.2%)	
Academic Programs	
Special Attention to Learning Problems (2.2%)	6.1
Reading, Spelling, Speech Programs (2.4%)	
Bi-Lingual Program (0.6%)	
Health, P.E. Programs (0.6%)	
Music, Art Programs (0.3%)	
Math, Science, History, Social Studies Programs (0.2%)	
General Comments	
Quality of Education (6.0%)	16.5
Discipline (1.5%)	
Other Positive Comments (8.9%)	
Other, Neutral, Negative or No Comment	7.9

Table 4-17 presents the responses to these two questions by CE and economic status. There is no pattern to the responses by economic status, except that poor parents are slightly more likely to give non-specific answers to the questions and less likely to mention classroom arrangements. Some differences do emerge according to CE status. Parents of Title I students (9%) and Other CE parents (12%) mention the schools' academic programs as being what they like more often than parents of non-CE students (5%). Parents of children not in CE programs mention a school's faculty and staff and the classroom arrangement more often than the other parents.

When it comes to change, there is little difference in responses. Concern for classroom arrangement is slightly higher for parents of Other CE students (9%), and parents of non-CE students (8%), than for parents of Title I students (5%). Also, change in academic programs is slightly higher for these two groups than for parents of Title I students.

Table 4-16

What Single Change Parents Would Make in Their Children's Schools

	Percent
Improve Teachers and Staff	
Improve Teachers and Staff (8.1%)	15.4
Improve Teacher-Child Relationships (1.9%)	
Improve Teacher-Parent Relationship (2.8%)	
Provide More Individual Attention (2.6%)	
Improve Classroom Set-Up	
Upgrade Classrooms (4.7%)	7.7
Provide More Structured Classrooms (2.9%)	
Provide Open Classrooms (0.1%)	
Improve Facilities and Transportation	
Improve Physical Facilities (7.9%)	15.2
Improve Lunch Room Facilities (5.3%)	
Provide Bus Transportation (1.2%)	
Need More Convenient Location (0.8%)	
Improve Organization and Administration of School	
Change Class Situation — Reduce Split Sessions, Separate 6th from 7th and 8th grades, Add Kindergarten, Expand Number of Grades (1.8%)	6.7
School Registration, Boundaries and Hours — Change Registration Requirement, More Convenient Hours, Change School District Boundaries, Lengthen School Day, Allow Adequate Time, Keep School Open (2.7%)	
Other — Improve PTA, Spend Less, Improve Grading System (2.2%)	
Change Academic Programs	
More or Better Programs — Bilingual, Math, Learning Programs, PE, Increase Activities, Increase Homework, Reading, Art, Music, Health (8.1%)	9.1
Fewer or Reduced Programs — No Mandatory PE, Easier School Work, Less Bilingual Work, Easier Homework (1.0%)	
Improve Discipline/Safety	
Improve Discipline (6.5%)	8.4
Improve Playground Rules, Child Safety (1.9%)	
General Changes to Improve Quality of School	6.8
No Changes	25.8
Negative or No Comment	5.4

Table 4-18 presents the data by school CE receipt category and economic status. Parents of students in Title I and Other CE schools mention teachers and staff as most liked more often than parents of non-CE students. Parents of non-CE students indicated most frequently that the improvement of teachers and staff is the one area in which they would most like to see change occur. Parents of students in Title I schools are slightly more likely to say they like

Table 4–17

Parents' Opinions of Their Children's Schools by Student CE Selection Status and Economic Status

	Student CE Selection Status								
	Title I			Other CE Only			No CE		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
What Parents Like Most About Their Child's School									
Teachers & Staff	39.8 (321)	38.0 (440)	38.7 (761)	39.8 (156)	38.3 (385)	38.8 (541)	41.4 (736)	43.6 (3806)	43.2 (4542)
Classroom Arrangement	4.2 (34)	10.1 (117)	7.7 (151)	2.3 (9)	11.3 (113)	8.7 (122)	6.3 (111)	11.9 (1038)	10.9 (1149)
Location, Physical Facilities	16.3 (131)	17.6 (204)	17.0 (335)	15.3 (60)	14.6 (147)	14.8 (207)	17.7 (314)	17.4 (1521)	17.5 (1835)
Academic Program	7.3 (59)	9.9 (115)	8.9 (174)	9.9 (39)	12.9 (130)	12.1 (169)	5.8 (103)	4.7 (411)	4.9 (514)
General-Positive	18.0 (145)	14.6 (169)	16.0 (314)	22.4 (88)	15.6 (157)	17.6 (245)	18.1 (322)	16.1 (1410)	16.5 (1732)
Other/No Comment	14.4 (116)	9.8 (114)	11.7 (230)	10.2 (40)	7.2 (72)	8.0 (112)	10.7 (190)	6.3 (546)	7.0 (736)
N =	806	1159	1965	392	1004	1396	1776	8732	10508

Table 4–17 (continued)

What One Change Parents Would Like To Make At School									
Improve Teachers & Staff	14.1 (114)	16.2 (188)	15.4 (302)	14.0 (55)	15.9 (160)	15.4 (215)	13.6 (241)	16.1 (1404)	15.7 (1645)
Improve Classroom Arrangement	4.2 (34)	5.8 (67)	5.1 (101)	2.8 (11)	11.4 (114)	9.0 (125)	4.7 (84)	8.7 (758)	8.0 (842)
Improve Location Facilities	16.1 (130)	16.2 (186)	15.6 (306)	14.5 (57)	10.8 (108)	11.8 (165)	16.8 (299)	15.3 (1334)	15.4 (1633)
Improve School Organization	5.1 (41)	6.6 (76)	6.0 (117)	5.6 (22)	5.7 (57)	5.7 (79)	5.3 (95)	7.0 (614)	6.7 (709)
Change Academic Program	5.6 (45)	8.3 (96)	7.2 (141)	8.4 (33)	11.4 (114)	10.5 (147)	7.5 (133)	9.9 (861)	9.5 (994)
Improve Discipline/Safety	8.7 (70)	8.3 (96)	8.4 (166)	6.4 (25)	8.4 (84)	7.8 (109)	9.3 (165)	8.3 (729)	8.5 (894)
General Education Changes	4.1 (33)	6.9 (80)	5.8 (113)	5.6 (22)	7.5 (75)	6.9 (97)	4.7 (84)	7.4 (650)	7.0 (734)
No Changes	35.4 (285)	26.4 (306)	30.1 (591)	33.7 (132)	24.2 (243)	26.9 (375)	30.6 (543)	22.6 (1972)	23.9 (2515)
No Comment	6.7 (54)	6.4 (74)	6.5 (128)	8.9 (35)	4.9 (49)	6.0 (84)	7.4 (132)	4.7 (410)	5.2 (542)
N =	806	1159	1965	392	1004	1396	1776	8732	10508

Table 4–18

Parents' Opinions of Their Children's Schools by School CE Receipt Status and Economic Status

	School CE Receipt Category								
	Title I Schools			Other CE Schools Only			Non CE Schools		
	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %	Poor/AFDC %	Non-Poor %	Total %
What Parents Like Most About Their Child's School									
Teachers & Staff	40.7 (941)	43.1 (2728)	42.4 (3669)	43.8 (196)	43.0 (1367)	43.1 (1563)	35.3 (77)	38.7 (537)	38.3 (614)
Classroom Arrangement	5.1 (118)	12.2 (775)	10.3 (893)	4.5 (20)	8.6 (274)	8.1 (294)	7.3 (16)	15.9 (221)	14.8 (237)
Location, Physical Facilities	17.7 (410)	15.4 (975)	16.0 (1385;	14.3 (64)	20.6 (654)	19.8 (718)	14.2 (31)	17.6 (244)	17.1 (275)
Academic Program	7.1 (164)	6.8 (433)	6.9 (597)	5.4 (24)	5.3 (168)	5.3 (192)	6.0 (13)	4.0 (56)	4.3 (69)
General-Positive	17.9 (414)	15.4 (975)	16.1 (1389)	20.8 (93)	16.9 (536)	17.3 (629)	22.0 (48)	16.3 (226)	17.1 (274)
Other/No Comment	11.4 (263)	7.1 (449)	8.2 (712)	11.2 (50)	5.7 (181)	6.4 (231)	15.1 (33)	7.4 (102)	8.4 (135)
N=	2310	6335	8645	447	3180	3627	218	1386	1604

Table 4-18 (continued)

What One Change Parents Would Like To Make At School									
Improve Teachers & Staff	13.4 (309)	14.9 (946)	14.5 (1255)	13.6 (61)	16.5 (526)	16.2 (587)	18.3 (40)	20.3 (281)	20.0 (321)
Improve Classroom Arrangement	4.1 (94)	8.9 (563)	7.6 (657)	5.6 (25)	8.8 (280)	8.4 (305)	4.6 (10)	7.0 (97)	6.7 (107)
Improve Location, Facilities	17.0 (393)	16.6 (1050)	16.7 (1443)	13.2 (59)	12.0 (382)	12.2 (441)	15.6 (34)	13.4 (186)	13.7 (220)
Improve School Organization	5.8 (133)	7.1 (449)	6.7 (582)	4.3 (19)	6.8 (217)	6.5 (236)	2.8 (6)	5.8 (81)	5.4 (87)
Change Academic Program	6.7 (155)	9.5 (600)	8.7 (755)	8.5 (38)	10.8 (345)	10.6 (383)	8.3 (18)	9.2 (127)	9.0 (145)
Improve Discipline/Safety	8.7 (200)	7.9 (499)	8.1 (699)	8.5 (38)	8.8 (281)	8.8 (319)	10.1 (22)	9.3 (129)	9.4 (151)
General Education Changes	4.2 (97)	7.0 (441)	6.2 (538)	6.5 (29)	7.9 (252)	7.7 (281)	6.0 (13)	8.1 (112)	7.8 (125)
No Changes	32.6 (754)	23.4 (1482)	25.9 (2236)	32.4 (145)	23.3 (741)	24.4 (886)	28.4 (62)	21.7 (301)	22.6 (363)
No Comment	7.6 (175)	4.8 (305)	5.6 (480)	7.4 (33)	4.9 (156)	5.2 (189)	6.0 (13)	5.2 (72)	5.3 (85)
N =	2310	6335	8645	447	3180	3627	218	1386	1604

the school's academic program than other parents. These parents also say that they would like to see a change in the area of the location and facilities of their children's schools.

SUMMARY

There is a basic pattern that emerges from these data which portrays parental involvement and satisfaction with their children's educations. It is best represented in Figure 4-4 which displays the mean position on a parental involvement scale (See Table 2-1, Chapter 2 for scale components) by student CE selection status and economic status. First, it shows that poor parents and non-poor parents cluster in different positions, with non-poor parents more involved in their children's educations than poor parents. Then, it shows within the cluster groups that parents of Title I students are generally less involved than parents of Other CE students who, in turn, are less involved than parents of non-CE students. The general conclusion to be drawn from this is that Title I selectees, when grouped according to economic status, are the students with the least support from the home in terms of parental involvement. Hence, if disadvantagement is extended beyond a concept of low achievement and low income to include low parental involvement, then the students selected for Title I are the most disadvantaged in every sense.

P-TI=Parents of Poor/AFDC Title I Students
NP-TI=Parents of Non-Poor Title I Students
P-OCE=Parents of Poor/AFDC Other CE Only Students
NP-OCE=Parents of Non-Poor Other CE Only Students
P-NCE=Parents of Poor/AFDC Non-CE Students
NP-NCE=Parents of Non-Poor Non-CE Students

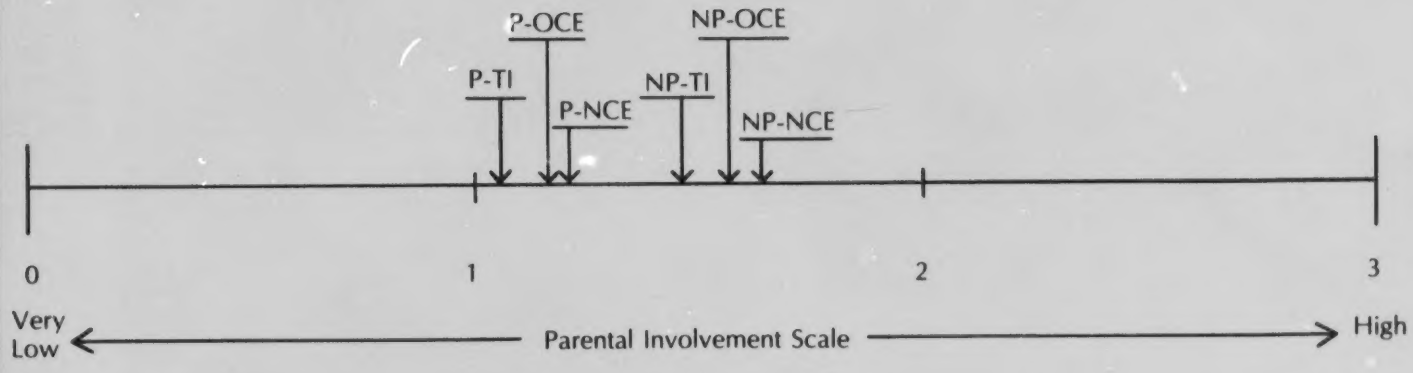

Figure 4-4 Mean Parental Involvement Value, By Student CE Selection Status and Economic Status

PART II. SOCIAL AND ECONOMIC DIFFERENCES IN ELEMENTARY SCHOOL ACHIEVEMENT*

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* Annegret Harnischfeger assisted in the conceptualization of this part, and in the latter stages, William A. Thrash contributed to the planning and execution of the analyses.

CHAPTER 5. MATERNAL EDUCATION BY ETHNICITY, POVERTY, AND ACHIEVEMENT

Poverty and maternal education are reflective of the economic and educational components of socio-economic status. By tabulating these two variables against ethnic status, and by examining achievement patterns over cells and across content areas and grades, the following questions are among those that can be addressed:

1. What are the relative magnitudes of the measures of the relationships of maternal education and poverty on achievement?
2. Are the relationships of maternal education and poverty the same for the three ethnic groups?
3. How do the relationships of maternal education and poverty differ across content areas?
4. To what extent are ethnic differences in achievement eliminated by controlling for poverty or maternal education?
5. Do the gaps in achievement between ethnic groups increase with increasing grade (Fanspread hypothesis)?
6. What is the distribution of maternal education among the three ethnic groups, and among poor and non-poor populations?

In this chapter each of these six questions will be treated in detail. Also, an important question in assessing the effects of possible Title I eligibility criteria (the relation of poverty to achievement), is examined at the end of this chapter. Poverty-achievement relationships are examined for different cells of the Orshansky matrix (see Breglio, Hinckley, and Beal, 1978).

One of the major strengths of the Participation Study database is the inclusion of achievement scores for different grade levels and different content areas. Unfortunately, different grades and different content areas require different test instruments. It is not meaningful to ask whether an absolute level of performance on a test in one content area is the same as an absolute level of performance in another area, or even on a different test in the same area, except under very special conditions. However, it is both feasible and desirable to compare the *relative* performance of different groups on different tests. All of the questions addressed in this report that involve achievement can be framed in this way. For example, by dividing the sample at a given grade level into subgroups according to hours of homework reported, and asking about the relative perfomance of these groups on a test of reading comprehension, the relation of homework and reading comprehension at that grade level is addressed. When the same analysis is done using a test of, say, math computation, we can say whether the performance of low-homework and high-homework children is more similar in reading comprehension or in math computation, and thereby compare the strengths of the homework-achievement relationships in these two areas.

In order to make this kind of comparsion, a method was needed to express the differences between distributions of achievement for two groups that was not overly dependent on the particular test used.

The achievement distribution for a given group on a given test is completely described by a list giving the proportion of the group scoring at or below each successive score. That is, the list gives the proportion with a score of 0; the proportion with a score of 0 or 1; the proportion scoring 0, 1, or 2; etc. If a similar list is constructed for a second group, and the successive values on one list are paired with the corresponding values on the other, the resulting set of pairs provides a description of the relative performance of the two groups. Once this is done, a new scale may be chosen to make the distribution for one group normal, with a mean of zero and a standard deviation of 1. Then, using this new scale, the mean and standard deviation for the second group are computed. We would refer to the first group as the *reference group* and the second as the *comparison group.* The mean and standard deviation computed for the comparison group, using the scale fixed for the reference group, are called the *relative mean* and *relative standard deviation,* and together they provide a summary of the comparison group's performance—relative to the reference group—which summary does not depend on the particular test used. Since the reference group's mean was fixed at 0, the comparison group mean is equal to the difference between the means for the two groups, in reference-group standard deviations. Since the reference group's standard deviation was fixed at 1, the comparison group standard deviation is equal to the ratio of the standard deviations for the two groups. The relative mean and relative standard deviation summarize the differences in achievement for the two groups with two easily interpreted numbers. For the analyses in this report, the reference group was always taken to be the entire population. It should be pointed out that this procedure does not depend strongly on assumptions of normality. A normal interpretation is imposed arbitrarily on the reference group distribution, and the mean and standard deviation of the comparison group are used to summarize group differences, simply because means and standard deviations are familiar and readily interpretable distributional summaries. Further details of the methodology employed are presented in Haertel, Thrash and Wiley (1978).

THE VARIABLES AND THE TABLES

For purposes of this example, the poverty, ethnicity, and maternal education variables are briefly described below, and the achievement tests are listed. More detail is provided in Chapter 6, where all tabulated variables are described. Tabulations of achievement by ethnic status, mother's education, and poverty, as well as tabulations of achievement by each possible pair of these three variables, are found in Appendix B.

Brief descriptions of the variables for this tabulation are as follows:

Maternal Education refers to the educational level of the woman in the household. It is coded into three levels. The lowest is high-school dropout; the second is high-school graduate or high-school graduate plus some college; and the highest level is college graduate.

Ethnicity refers to ethnic status. The three levels are: white-non-Hispanic; black-non-

Hispanic; and Hispanic. Persons of other races (Asians, American Indians, etc.) are excluded from the tabulations.

Poverty refers to the 1975 Orshansky poverty definition. On the basis of family size and other characteristics, an income cutoff is established according to whether each household is classified as either poor or non-poor.

Achievement in each of the four areas was measured using two different tests. These were: successive levels of the CTBS form S tests for that content area, including the recommended level for each grade (*at* grade level) and the next lower level (*below* grade level). The four content areas tested were Vocabulary, Reading Comprehension, Math Concepts, and Math Computation.

The tables in Appendix B (Tables B-1 to B-6) all follow the same format. In each grade for each test, relative means are presented for all subgroups. These relative means describe the achievement of each subgroup relative to the total population. Successive grades are in adjacent columns to facilitate inspection for trends across grades. In Table B-7, proportions of the population at each grade level in each subgroup are presented, along with the weighted total group size for that grade level. The weighted total group size is simply the sum of the weights for all pupils included at that grade level. Each weighted sum is approximately equal to the actual number of pupils at that grade level.

AT VERSUS *BELOW* GRADE-LEVEL TESTS

Differences between the *at* and *below* tests in the relative means for a given group reflect both the random variations that would be expected from one replication to another and differences between the content of the two tests and skewness or kurtosis of the raw score distribution. Thus, comparing results according to the *at* and *below* grade-level tests in a given content area gives some indication of the amount of error in the procedure. The discrepancy will be larger than would be expected if the same test were given twice to the same children, and smaller than would be expected if the *at* and *below* tests were given to two different samples of children. The graphs presented in Appendix B, Figures B-1 through B-20, illustrate the differences between *at* and *below* grade-level test results.

THE RELATIVE MAGNITUDE OF THE RELATIONSHIPS AMONG MATERNAL EDUCATION, POVERTY, AND ACHIEVEMENT

The table for Mother's Education (Appendix B, Table B-1) shows the relation of maternal education to achievement as measured at six grade levels using eight tests at each level. Each individual number for one subgroup at one grade on one test gives the difference between that subgroup's performance and the whole sample's performance in standard deviation units. Thus, in The Mother's Education table on the first line in the first column, the value −.580 indicates that on the *below* grade-level vocabulary tests, first graders whose mothers had not completed high school scored almost six-tenths of a standard deviation below the mean for all first graders tested.

The first problem is to get a quick overview of all these data to summarize the relationship

of maternal education. Accordingly, we might begin by taking medians across grades for each of the eight tests. These are summarized in Table 5-1.

The medians tabled in this way show a fairly clear pattern of relationships. The first point to note is that the *below* grade-level tests show larger relationships (are further from the mean) at the less than high-school and high-school levels, while the *at* grade-level tests, with the exception of Math Computation, show larger relationships at the college level. This pattern is not at all surprising. The better the match between the difficulty level of the test and the ability level of the population, the higher the internal consistency reliability of the measurement. The higher the reliability, the lower the degree of "regression toward the mean". KR-21 reliabilities were consistently higher on the *at* grade-level tests and lower on the *below* grade-level test for college than for the other two groups.

The second point to note is that relationships are largest for vocabulary, smallest for math computation (but never more than .2 of 1 standard deviation), and intermediate for reading comprehension and math concepts. This also makes sense. The relation of maternal education to achievement is largest in the area that would be expected to be most influenced by home environment, smallest in the area least influenced by home environment, and intermediate in the other two areas.

Finally, we may note that the relationships are highly consistent. Setting aside math computation, the largest *at* vs. *below* difference is only .07 standard deviation units (for vocabulary in the college sample), and the largest content difference is .13 standard deviations (vocabulary *versus* math concepts at grade level, college sample). Average differences among the three levels of maternal education are much larger, roughly .55 standard deviations between dropout and high-school graduate, and .45 standard deviations between high-school graduate and college graduate.

On the basis of this examination, we may take the reading comprehension *below* grade-level test as typical of the eight tests, and use the median values for that test to represent maternal education: −.47 for high-school dropout, .14 for high-school graduate, and .54 for college graduate. Turning to the table for poverty (Appendix B) there again appears to be no strong trend over grade levels, so a table of medians over grades may be constructed as before.

Contrasts between the *below* and *at* grade-level tests and comparisons across the four content areas show the same patterns as for maternal education. Between-tests differences are all very small relative to the difference between poor and non-poor. Again choosing reading comprehension *below* as typical, representative means for poor and non-poor groups are −.59 and .12 respectively.

It is now possible to compare the size of the effects of maternal education and poverty on achievement. The gap between high-school dropout and high-school graduate is about .61, the high-school graduate–college graduate gap is .40, and the poor–non-poor gap, is .71. Thus, the gap between the lowest and highest levels of maternal education, .61 plus .40, is over 40 percent greater than the poor–non-poor gap, but the poor–non-poor gap exceeds both the dropout–high-school gap, and the high-school–college gap. Thus, it appears the

Table 5-1

Median Test Score Gaps Across Grades by Maternal Educational Attainment

Tests	MATERNAL EDUCATION: Less Than High-School		High-School		College	
	Below	At	Below	At	Below	At
Vocabulary	−.52	−.47	.15	.12	.64	.71
Reading Comp.	−.47	−.44	.14	.11	.54	.59
Math Concepts	−.49	−.43	.14	.12	.55	.58
Math Comp.	−.35	−.27	.09	.08	.49	.43

Table 5-2

Median Test Score Gaps Across Grades by Economic Status

Tests	ECONOMIC STATUS: Poor		Non-Poor	
	Below	At	Below	At
Vocabulary	−.64	−.57	.13	.13
Reading Comp.	−.59	−.51	.12	.11
Math Concepts	−.59	−.52	.12	.11
Math Comp.	−.50	−.40	.10	.08

Table 5-3

Median Reading Comprehension *Below* Grade Level Test Score Gaps Across Grades By Maternal Educational Attainment and Ethnicity

ETHNICITY	MATERNAL EDUCATION		
	Less Than High-School	High-School Graduate	College Graduate
White	−.24	.26	.67
Black	−.90	−.56	−.08*
Hispanic	−.83	−.28	−.23*

*Unstable due to small sample size

magnitude of the relationship between maternal education and achievement is greater than the relationship between poverty and achievement. This confirms the relative importance of parental education in predicting student achievement, as pointed out in Chapter 2.

RELATIONSHIPS OF MATERNAL EDUCATION AND POVERTY WHEN CONTROLLING FOR ETHNICITY

Using the tables for Mother's Education by Ethnicity (Appendix B, Table B-5), and for Poverty by Ethnicity (Appendix B, Table B-6), the relationships of maternal education and poverty can be calculated. Turning first to maternal education, and selecting reading comprehension *below* grade-level as typical, the following (Table 5-3) are the medians over grades from the Mother's Education by Ethnicity table.

Not controlling for race, the dropout–high-school graduate gap was .61. Gaps obtained for white, black, and Hispanic are .50, .34 and .55, which average .46. Thus, controlling for race reduced the dropout–high-school graduate gap by (.61 − .46)/.61 = 25 percent. The corresponding figures for the high-school graduate–college graduate gap are .41, .48, and .05, averaging .31, a reduction of roughly 25 percent, but the figures for Hispanic college graduate should be used with caution, as sample sizes are quite small. Hence, while race appears to be related to achievement, it only reduces the gap attributed to maternal education by about one-fourth.

Table 5-4

Median Reading Comprehension *Below* Grade-Level Test Score Gaps Across Grades by Economic Status and Ethnicity

ETHNICITY	ECONOMIC STATUS	
	Poor	Non-Poor
White	−.29	.23
Black	−.87	−.50
Hispanic	−.92	−.52

The median poor–non-poor gaps by race for reading comprehension *below* grade level are found in Table 5-4.

White, black and Hispanic gaps are .52, .37 and .40, averaging .43, indicating a 40 percent reduction from the uncontrolled gap of .71 standard deviations. So, not only is the relationship of economic status to achievement of a lesser magnitude than maternal education to achievement, but the achievement gap attributed to it is reduced more by controlling for ethnicity. Interestingly, the gap attributable to economic status remains greatest for whites, indicating that poverty may have a greater relationship to achievement among whites than it does for other races or ethnic groups where other social and cultural variables may have a greater relationship.

DIFFERENCES IN MATERNAL EDUCATION AND POVERTY RELATIONSHIPS ACROSS CONTENT AREAS

The tables of medians presented previously (Tables 5-1 and 5-2) may be used to examine content differences in maternal education and poverty relationships. For both maternal education and poverty, small but systematic content differences appear. For maternal education, the dropout–college gaps for the four content areas were 1.16, 1.01, 1.04, and .84 using the *below* grade-level tests, and 1.18, 1.03, 1.01 and .70 using the *at* grade-level tests. Averaging the *below* grade-level figures for each content area, the relationships for vocabulary, reading comprehension, math concepts and math computation are 1.17, 1.02, 1.03, and .77 standard deviations, respectively. Taking reading comprehension as the base, maternal educational relationships are roughly 15 percent larger for vocabulary, 25 percent smaller for math computation, and of equal size for math concepts. Corresponding figures for poverty relationships in the four content areas are .74, .67, .67 and .54. Again, taking reading comprehension as the base, poverty relationships are roughly 10 percent larger for vocabulary, 20 percent smaller for math computation, and of equal size for math concepts. In conclusion, vocabulary is most strongly related to differences in either poverty status or maternal education, and math computation is least related by such differences. Relative variation is somewhat greater with maternal education than with poverty. Again, this confirms the differences between the relationship of home environment and achievement according to subject matter reported in Chapter 2.

ETHNICITY DIFFERENCES WHEN CONTROLLING FOR POVERTY OR MATERNAL EDUCATION

Tables 5-3 and 5-4, presented previously, provide information on ethnic differences, controlling for maternal education and poverty. Medians across grades for each test for each race from Appendix B, Table B-3, are presented in Table 5-5. These show the uncontrolled ethnic relationship to which the controlled relationships are to be compared.

The *below* versus *at* grade-level differences noted earlier also appear for ethnicity. For all three ethnic groups, mean deviations are larger for the *below* grade-level tests in all four content areas. Differences between *at* and *below* grade-level tests are smallest for the white group, where the *at* grade-level tests are most nearly of appropriate difficulty. Patterns of

content differences for the ethnic groups are similar to those described earlier for groups defined by maternal education or poverty, except that some ethnicity-by-content interaction is evident. Content differences are smaller for the white group and larger for the minority groups. Overall, reading comprehension *below* grade level still appears to be an appropriate typical test for purposes of comparison.

The uncontrolled ethnic gaps on the reading comprehension *below* grade-level test are .88 (white – black) and .82 (white – Hispanic). Corresponding gaps when controlling for maternal education or poverty are found in Table 5-6.

The white–black gap among the poor is only two-thirds as large as the uncontrolled gap, and among the non-poor the white–black gap is roughly five-sixths of the uncontrolled figure. This discrepancy may reflect the greater heterogeneity of income levels in the non-poor group; economic status is held more nearly constant by fixing poverty = poor, than by fixing poverty = non-poor. Controlling maternal education does not affect the black–white gap as much. The mean black–white gap, controlling for maternal education, is (.66 + .82 + .75)/3 or .74, a reduction of (.88 – .74)/.88, or 16 percent over the uncontrolled figure. The corresponding reduction in the white–Hispanic gap when maternal education is controlled is 17 percent. Controlling for poverty status reduced the white–black and white–Hispanic gaps by 26 percent and 16 percent respectively.

THE FANSPREAD HYPOTHESIS

No clear patterns of test score gaps across the six grade levels were noted in any of the tables discussed thus far (see Appendix B). To probe the relationship of grade more carefully, median test score gaps across all eight tests at each grade level (seven tests for grade 1) were taken for each ethnic group. Results are in Table 5-7.

There is evidence in this table of a trend across the first three grade levels. Our basic methodology for looking at group differences can be thought of as focusing on distributional

Table 5-5

Median Test Score Gaps Across Grades by Ethnicity

	ETHNICITY					
	White		Black		Hispanic	
Tests	Below	At	Below	At	Below	At
Vocabulary	.19	.17	−.80	−.63	−.72	−.65
Reading Comp.	.18	.16	−.70	−.59	−.64	−.60
Math Concepts	.17	.16	−.68	−.61	−.67	−.62
Math Comp.	.14	.12	−.56	−.43	−.35	−.34

Table 5-6

Median Reading Comprehension *Below* Grade-Level Test Score Gaps by Ethnicity when Controlling For Maternal Educational Attainment and Economic Status

MATERNAL EDUCATION AND ECONOMIC STATUS	ETHNIC GAPS	
	White – Black	White – Hispanic
Mother dropout	.66	.59
Mother high-school graduate	.82	.54
Mother college graduate	.75	.90
Poor	.58	.63
Non-poor	.73	.75
Overall	.88	.82

Table 5-7

Median Achievement Test Score Gaps by Grade and Ethnicity

ETHNICITY	GRADE					
	1	2	3	4	5	6
White	.12	.14	.19	.18	.19	.14
Black	−.40	−.55	−.68	−.62	−.72	−.63
Hispanic	−.39	−.51	−.67	−.64	−.60	−.67

overlap. If the median of one group's distribution, for example, is at the 25th percentile of another's and this is true in every grade, our procedures will find no grade-level increase in the "gap" separating these groups. If the same test is given at several grade levels, however, total variances at higher grade levels could be found to be larger *relative* to those in lower grades. If this were the case, gaps between advantaged and disadvantaged groups measured in the metric of the lower grade distribution could be found to increase, even though the overlap between distributions did not change. However, under the circumstances, this seeming increase in variance could be eliminated by a scale transformation. Only if the overlap indices of group differences used in this report also increased would such a transformation not be able to remove the widening gap. Therefore, since test performance metrics of all kinds are generally assumed to be arbitrary and, consequently, subject to any monotonic transformation, the truth of the *fanspread* hypothesis—at least in the elementary grades—would seem to depend on the performance metric used. In this case, the metric restricts any possible *fanspread* to the first three grades, so the hypothesis that gaps between ethnic groups increase with increasing grade level cannot be fully tested here. However, the hypothesis is not supported by these data for grades 4-6. Also, the trend over grades 1-3 may be due, in part, to increasing reliability as older children are tested and to content discrepancies between grades 1 and 2 and the later grades, as described in Chapter 6.

THE DISTRIBUTION OF MATERNAL EDUCATION FOR EACH ETHNIC GROUP AND FOR POOR AND NON-POOR

Table B-7 in Appendix B presents proportions of the population in each cell for each grade level. These figures serve two purposes. First, results for small cells are less stable than for larger cells, so knowing the proportion in each cell is important in judging the relative accuracy of values in the table. Second, cell sizes are of interest in themselves. For most purposes, it should be sufficient to inspect the proportions across the six grades to form an idea of the relative sizes of different cells. However, to illustrate the procedure for recovering more

Table 5-8

Proportion of Women Having Different Educational Attainments by Ethnicity and by Economic Status

	MATERNAL EDUCATION			
	Less Than High-	High-School Graduate	College	Total
ETHNICITY				
White	.200	.505	.089	.794
Black	.069	.062	.007	.138
Hispanic	.051	.016	.001	.068
TOTAL	.320	.583	.097	1.000
Economic Status				
Poor	.108	.054	.004	.166
Non-Poor	.211	.529	.094	.834
TOTAL	.319	.583	.098	1.000

information from these data, Table 5-8 below was prepared, using the Mother's Education by Ethnicity and Mother's Education by Poverty tables (Appendix B, Tables B-5 and B-4).

The values of this table, for individual cells, were obtained by averaging across the six grade levels, weighting each grade according to its total weight. Marginals were then obtained by simply summing. Differences in the marginals for each level of maternal education are due to rounding. In general, larger differences may occur between marginals for the same effect computed from different tables, due to different patterns of missing data for the variables used in constructing the table.

The table above shows clear relationships between maternal education and each of ethnicity and poverty. Only .200/.794 = 25 percent of all white mothers lack a high-school diploma, while the corresponding figures for black and Hispanic are 50 percent and 75 percent respectively. Sixty-five percent and twenty-five percent of the poor and non-poor groups show maternal education less than high school. Of mothers who are college graduates, .089/.097 = 92 percent are white, and 96 percent are non-poor.

GRAPHS OF MARGINAL EFFECTS FOR THE EXAMPLED TABULATION

In Appendix B, graphs are presented that show the mean differences, or gaps, over grades between levels of maternal education, ethnic group and poverty. Gaps obtained using the *below* and *at* grade-level tests in each content area appear on the same graph. For example, the first graph (presented here as Figure 5-1) shows the gaps between black and white groups in vocabulary for grades 1 – 6. The line labeled *at* shows gaps at each of the six grades from the *at* grade-level tests, and the line labled *below* shows the corresponding gaps from the *below* grade-level tests.

This graph, and those in Appendix B, illustrates several points discussed earlier. First, the differences between the *at* and *below* tests are small but systematic. Gaps on the *below* tests are generally larger but the difference between the two sets of gaps are small, relative to the magnitude of either set, as shown by the vertical scale. Second, there is no evidence of systematic trends across grade level. Third, gaps are generally largest in vocabulary, intermediate in reading comprehension and math concepts, and smallest in math computation. Regarding this last point, the differences in the gaps are probably related to the home environment and parental education (see Chapter 2) that contribute more to predicting reading scores than they do math scores. Hence, students from homes where the educational environment and parental education are high, generally homes of white students, have higher reading scores than those with lower parental education and educational environment, producing larger gaps in the reading subtests.

POVERTY AND ACHIEVEMENT FOR DIFFERENT CELLS IN THE ORSHANSKY MATRIX

Poverty is defined, for these analyses, by the 1976 Orshansky poverty criteria. To determine poverty *versus* non-poverty status, an income cutoff is established, based on the number of

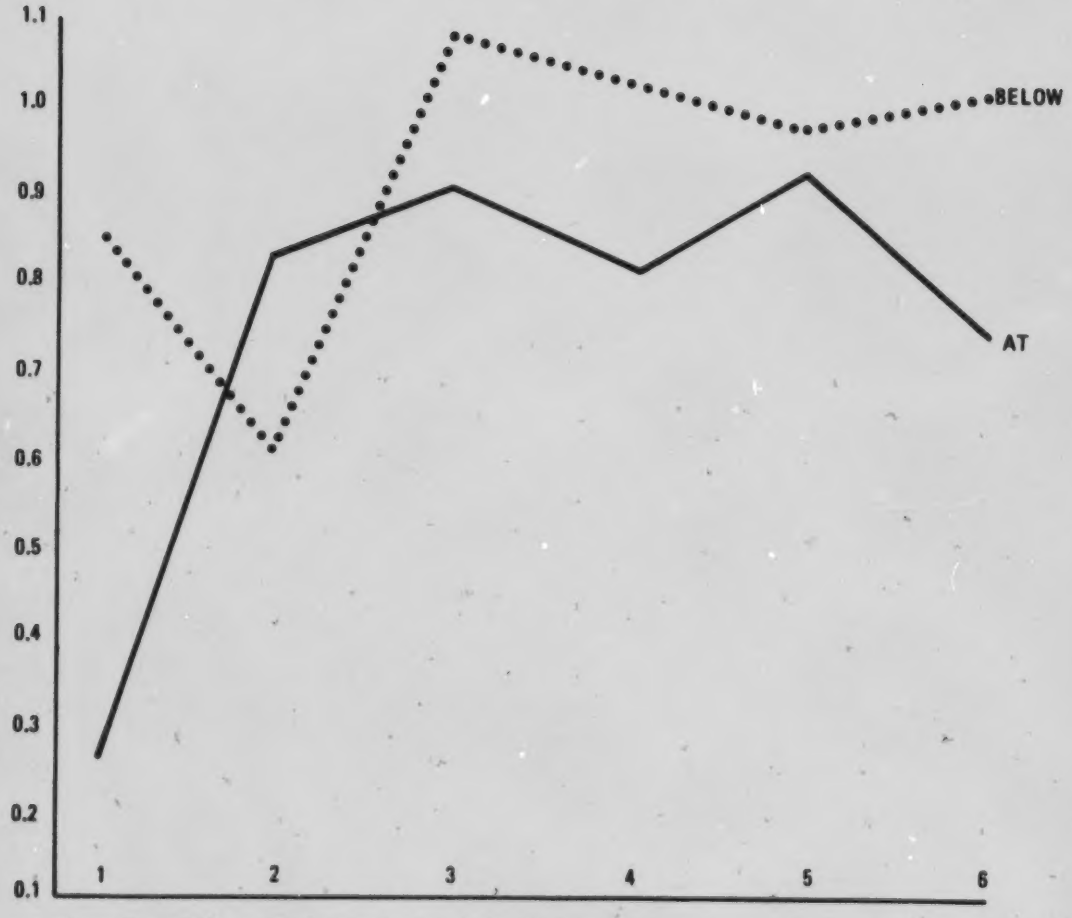

Figure 5-1 White – Black Gaps in Vocabulary by Grade

persons in the household, number of children under 18, sex of head of household, and farm *versus* non-farm status. Together, these characteristics determine to which *cell* a given household belong, and the income cutoff for that cell is applied to determine whether the household is in poverty. There are 124 cells in all and, taken together, they form the Orshansky matrix. Since at least one child was present in all of the households in the sample, only 88 of the 124 cells were of concern. However, even 88 cells were too many to analyze one at a time, especially since the number of cases per cell was quite unequal in size. Accordingly, some very sparsely represented cells were eliminated (such as farm – female head of household) and others were consolidated (number of adult members were reduced to three categories; 1, 2, 3 or more, for example) resulting in 36 categories with a simple factorial structure: number of children (1, 2, 3, 4 or more), by number of adults (1, 2, 3 or more), by "quadrant" (non-farm male head of household, non-farm female head of household, farm male head of household).

To study the variation of poor–non-poor gaps across the 36 categories derived from the Orshansky matrix, a set of tabulations were made of the number of children by number of adults, by quadrant, by poverty status for each test, for each grade level. Even after reducing the original matrix to just 36 categories, the number of cases in individual categories in poverty — at individual grade levels — were too small to report results, category by category. In addition, important generalizations would be missed if such a strategy were followed. Accordingly, in Appendix B, three two-way tables (Tables B-8, B-9 and B-10) are presented. These are tables of numbers of children by poverty (Table B-8), numbers of adults by poverty (Table B-9), and quadrants by poverty (Table B-10). Table B-11 presents the proportions in each group by grade for these three tabulations.

The slope of the poverty–achievement relationship varies systematically across the cells of the Orshansky matrix. No systematic variation across grade levels was detected. Patterns across content areas and *at* versus *below* grade-level tests were the same as patterns discussed earlier. That is, poor–non-poor gaps were generally about .1 standard deviation larger for vocabulary, and .1 standard deviation smaller for math computation, than for reading comprehension and math concepts. Gaps measured using *at* grade-level tests averaged roughly .05 standard deviation smaller than gaps measured using the *below* grade-level test. For reading comprehension *below* grade-level, typical gaps were roughly .6 standard deviation, favoring non-poor pupils.

As the number of children increases, the gap increases slightly, from about .45 standard deviations for one-child households to roughly .8 standard deviations with four or more children. The number of adults is also positively related to the size of the poor–non-poor gap. For reading comprehension and math concepts, the gaps increase from roughly .5 standard deviations with one adult to .75 standard deviations with three or more adults. On the vocabulary tests, typical gaps ran from roughly .7 standard deviations with one adult to .8 standard deviations with three or more adults. Apparently, the number of adults in a household does not contribute greatly to the environment conducive to greater vocabulary achievement, as one might expect. For math computation, no relation between number of adults and poor–non-poor gaps was found. Math computation tests yielded poor–non-poor gaps averaging roughly .5 standard deviations at all levels of number of adults. The strongest variations in poor–non-poor gaps were found in comparing one quadrant to another. Gaps

were largest for non-farm male head of household, where the average was roughly .7 standard deviations (slightly larger for vocabulary, smaller for math computation). In the non-farm female head of household quadrant, gaps averaged .4 standard deviations. Finally, in the farm male head of household quadrant, typical gaps were on the order of only .1 standard deviations.

In summary, poverty is most strongly related to achievement in larger families, the strength of the relationship increasing with both number of children and number of adults. Poor–non-poor gaps were quite small for farm households, and are substantially larger in non-farm households with a male head than with a female head.

CHAPTER 6. ANALYSES OF SOCIAL, DEMOGRAPHIC, AND ECONOMIC CHARACTERISTICS

In this chapter, the main body of analyses in Part II is presented. In the first section, a conceptual scheme used to organize the analyses is presented. The second section includes descriptions of all the variables, including the achievement tests, and defines the levels used in coding them. In the last section, the findings are presented.

ORGANIZATION OF SOCIAL, DEMOGRAPHIC, AND ECONOMIC CHARACTERISTICS

The various characteristics related to achievement in these analyses were grouped into six clusters, as shown in Figure 6-1. The Time cluster is shown as closest to Achievement, since the hours of television viewing, or homework, measure actual pupil pursuits, and directly influence the time available for other activities as well. The Family Unit, Parental Education, and Economic Status clusters are somewhat more distally related to achievement. The number of children and the number of adults in the home should be related to the amount of contact with adults which each child potentially experiences, and the variables in the parental education and economic status clusters indicate significant components of socio-economic status. The more distal demographic characteristics in the rightmost column include urbanicity, which might reflect some differences in school practices as well as home life, and ethnic and regional characteristics—where strong variations in achievement are known to exist.

Using this conceptual framework, a large set of crosstabulations were planned. All the variables in each possible pair of clusters were crosstabulated with each of the eight achievement tests at each of the six grade levels. (Only seven tests were used at grade one.) From this extensive compendium, one-way tables for all variables, and important two-way tables, have been selected for inclusion in this report. Each table shows levels of achievement for each group defined by the crosstabulation, for each test in each grade level. The (weighted) proportion of cases in each group and the sum of the weights are also presented for each grade. These tables are found in Appendix B.

Tables B-1 through B-10 in Appendix B were discussed in the preceding chapter. Tabulations discussed in this chapter appear in Tables B-8 through B-10 and B-12 through B-27. For all of these tabulations, proportions of pupils in different groups are reported in Tables B-11 and B-28.

A DESCRIPTION OF THE VARIABLES

Achievement Tests. As indicated previously, the achievement test data were collected by administering the CTBS (form S) tests in four content areas. Children at each grade took tests in all four content areas at two successive levels: the recommended level for that grade (*at* grade-level tests) and the next lower level (*below* grade-level tests). The four content areas tested were vocabulary, reading comprehension, math concepts, and math computation. However, at the lowest grade levels, test content was defined somewhat differently. Level A

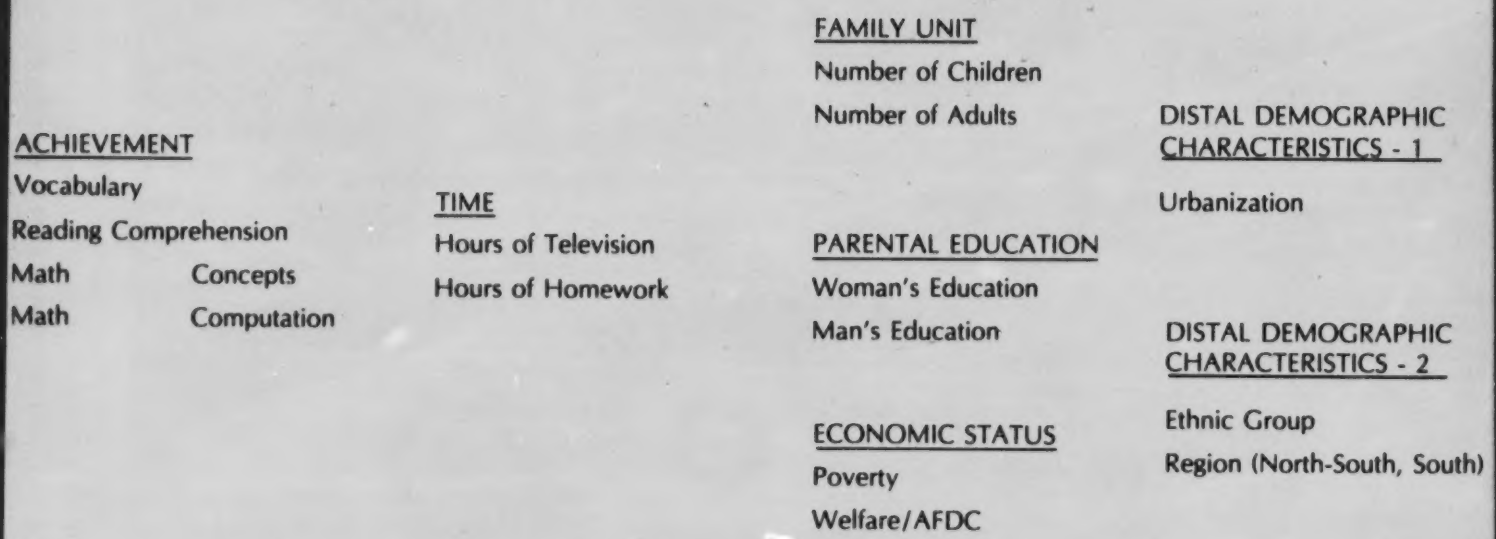

Figure 6-1 Framework Used to Organize the Tabulation of Achievement with Social, Demographic, and Economic Characteristics

of the CTBS, used for grade 1 *below* grade-level, consisted of only three relevant tests, rather than four. These were matched to the content areas tested at the higher grades as follows: letter-sounds were used for vocabulary, sound matching was used for reading comprehension, and math was used for math concepts. There was no *below* grade-level math computation test for grade 1. At level B, a test of word recognition was used for vocabulary. Level B was used for the *at* grade-level grade 1 testing and the *below* grade-level grade 2 testing.

Time Variables. Two variables were included in this category. Both are parent's reports of the number of hours spent on a typical weekday. These variables are: hours of television viewing and hours of homework. Since these questions on the HIQ pertained to the individual child, they were missing for all but one child in the family whenever siblings had been randomly selected for the sample. (Parents were not asked to provide detailed information on more than one child.) For this reason, proportions of missing data are roughly eight percent higher for these variables, as reflected in the total weights for each grade reported at the end of each table. Levels coded for these variables are shown in Table 6-1.

Family Unit Variables. Variables in this cluster were: number of related children in the household and number of adults in the household. These two variables were derived from the Orshansky cell identification number. Since all households with seven or more persons are coded at the same level in the Orshansky matrix, precise numbers of adults could not be computed from the Orshansky cell code where the total household size was seven or more. Similarly, where six or more children were present in a given household, the number of children was not precisely determined. In these cases, the variables which could not be determined were coded as missing. Only a small number of cases were lost due to this procedure. Levels coded for number of children and number of adults are also shown in Table 6-1.

Parental Education Variables. The two variables in this cluster are Father's Education and Mother's Education. These were taken from the HIQ. In discussing tabulations involving the woman's education, the terms 'woman's education', 'mother's education' and 'maternal education' are used interchangeably. The same coding was used for both of these variables, as shown in Table 6-1.

Economic Status Variables. The most important variable in this cluster is poverty status, either poor or non-poor according to the 1976 Orshansky poverty definition, as computed for each household from the HIQ. Cases for which poverty status was indeterminate were not included in tabulations involving this variable. The second economic status variable, welfare/AFDC, is a composite measure, also derived from the HIQ, which indicates whether the family: (1) receives no welfare payments; (2) receives welfare payments not including Aid for Dependent Children (AFDC); or (3) receives welfare including AFDC. Families receiving AFDC payments and no other welfare assistance are coded in the third category. The coding for these variables is presented in Table 6-1.

Distal Demographic Characteristics. The three variables in this category are urbanicity, ethnicity, and region. Urbanicity refers to the size and type of community in which the household is located, and was derived from the HIQ. Levels are shown in Table 6-1. Ethnicity

was coded initially by four levels: Caucasian non-Hispanic, Black non-Hispanic, Caucasian or Black Hispanic, and Other. Due to the small sample sizes for the "other" category, it was dropped from the analyses. Thus, the complete population is not represented in tabulations involving ethnic identification, as roughly 2.5 percent of the sample is excluded. Region refers to the geographic regions defined by the United States Census. The Standard Federal Regions

Table 6-1

Coding of Social, Demographic, and Economic Characteristics

VARIABLE		LEVELS
TIME CLUSTER		
Daily hours of homework	1	None
	2	Less than one hour
	3	One hour, but less than two hours
	4	Two hours, but less than three hours
	5	Three or more hours
Daily hours of television viewing	1	Less than one hour
	2	One hour, but less than two hours
	3	Two hours, but less than three hours
	4	Three hours, but less than four hours
	5	Four or more hours
FAMILY UNIT CLUSTER		
Related Children Under 18	1	One
	2	Two
	3	Three
	4	Four or More
Number of Adults	1	One
	2	Two
	3	Three or More
PARENTAL EDUCATION CLUSTER		
Woman's Education (Maternal Education)	1	Not a high-school graduate
	2	High-school graduate; not a college graduate
	3	College graduate
Man's Education	1	Not a high-school graduate
	2	High-school graduate; not a college graduate
	3	College Graduate
ECONOMIC STATUS CLUSTER		
Poverty Status	1	Poor
	2	Non-poor
Welfare/AFDC	1	No welfare received
	2	Welfare not including AFDC
	3	Welfare including AFDC
DISTAL DEMOGRAPHIC CHARACTERISTICS		
Ethnic Group	1	White (non-Hispanic)
	2	Black (non-Hispanic)
	3	Hispanic
Region	1	School in non-southern state
	2	School in southern state

Table 6-1 (continued)

Urbanization	1	City of over 500,000
	2	City of 200,000 to 500,000
	3	City of 50,000 to 200,000
	4	City of less than 50,000
	5	Suburb of a city of 50,000 or more
	6	Rural area
ORSHANSKY MATRIX VARIABLE		
Quadrant	1	Non-farm, male head of household
	2	Non-farm, female head of household
	3	Farm, male head of household

used in other analyses of Sustaining Effects/Participation Study data were not used, due to the requirements of the analyses. On the basis of preliminary analyses, the northeastern, north central, and western regions were collapsed, and only the south – non-south distinction was maintained in the final tabulations. Coding for these three variables is shown in Table 6-1.

Variables Used in Defining The Cells of the Orshansky Matrix. As stated in Chapter 5, the 124 cells of the Orshansky Matrix were recategorized to form three quadrants: (1) male head of household, non-farm; (2) female head of household, non-farm; and (3) male head of household, farm.

RESULTS OF ANALYSES

Daily Hours Television Viewing and Achievement. The relation of achievement to hours of television viewing appears in Table B-12 in Appendix B. Television viewing appears to have a stronger relationship to achievement at the higher grades than the lower grades. At grades 1 and 2, two to three hours of television viewing correspond to higher achievement than either more, or less, viewing. At higher grade levels, the viewing time associated with peak achievement falls until, by grade 6, the groups with highest achievement levels view television less than one hour, or only one to two hours. Patterns are similar for all content areas, but the relationship appears strongest for reading comprehension where the gap between the optimum viewing time for a given grade and "four or more hours" averages about one-third of a standard deviation.

The mean hours of television viewing reported is relatively constant across grade levels (see Table B-28). About five percent view less than one hour per day; 21 percent one but less than two hours; 37 percent two but less than three hours; 24 percent three but less than four hours; and 13 percent of the sample view four or more hours of television per day. Data displayed in Table B-13 and B-28 (Appendix B) indicate that the median amount of television viewing time at the higher grade levels is roughly 25 percent greater among minorities than whites, but the mode is from two to less than three hours for all ethnic groups. The overall television-viewing–achievement relationship noted above emerges clearly for whites, but somewhat less clearly for minority groups. These findings indicate that while ethnic-achievement gaps at the first grade level may not relate to differences in television viewing habits between the group, the viewing habits may well be associated with such gaps in higher grades.

Daily Hours of Homework. The table for hours of homework (Table B-14) shows a strong negative relationship between homework and achievement, especially in the lower grades. Table B-15, showing achievement for each homework level by ethnic category, contributes to our understanding of this. First of all, the amount of homework reported for minorities, especially blacks, is substantially greater than the homework reported for white pupils. (This substantiates findings discussed in Part I.) Since minority achievement is generally below the average, the disproportionate representation of minorities in the higher homework categories contributes to the strength of the negative relationship between hours of homework and achievement. When ethnic membership is controlled, by taking an equally weighted average of the effects for the three ethnic groups, the negative relationship is weaker. The data also show that in each ethnic group, and overall, students with some homework out-perform those who typically do no homework in grades 5 and 6, probably in grade 4. Also, results for the black ethnic group show a positive relationship between homework and achievement in grades 4, 5, and 6, which is clearest for reading comprehension and math concepts, but appears in all four content areas.

Family Unit Variables and Achievement. As shown in Table B-28, at all grade levels the modal number of children in the family unit was two, and this number was generally associated with the highest achievement. Achievement where the family unit contained four or more children was consistently worse, especially in vocabulary, where this group averaged almost 0.3 standard deviations below the overall mean. As was the case with the number of adults in a household, larger families do not contribute to high achievement in vocabulary. Differences were roughly half as large for math computation, and intermediate in the other two areas.

The relation of number of children and achievement differed for blacks from the patterns for white and Hispanic, possibly due to different correlations between socio-economic status and family size among the three ethnic groups (See Table B-17). For blacks, achievement was higher across all content areas and grades in families with only one child, and achievement declined steadily as number of children increased.

Table B-18 shows that achievement is consistently highest in family units with two adults, slightly lower with three or more adults, and substantially lower where there is only one adult present. Relationships were somewhat stronger for vocabulary—where the gap between one- and two-adult units was roughly half a standard deviation in achievement—than for the other three areas, where the same gap was roughly four-tenths of a standard deviation. Across grade levels, roughly 15 percent of the sample were from one-parent family units, and from 73 to 80 percent were from two-parent units. The proportion of households with three or more adults increased steadily with grade level, from about 6 percent at grade 1 to about 13 percent at grade 6.

The relation of achievement to number of adults is stronger for minorities than for whites, and the distribution of number of adults varies markedly from one group to another (Tables B-19 and B-28). Among whites, roughly 10 percent of the children sampled were from family units with only one adult. Corresponding percentages for the black and Hispanic populations were

about 40 percent and 25 percent respectively. The trend across grade levels in percent of units with three or more adults, which was noted above, appeared only for the white group. In the minority samples, roughly 10 percent of the units had three or more adults at all grade levels.

Parental Education and Achievement. Relationships of mother's education were discussed in detail in Chapter 5. Briefly, it was found that the gap between "no high-school graduate" and "high-school graduate" was about 0.6 standard deviations, and the gap between "high-school graduate" and "college graduate" was about 0.4 standard deviations, and that these effects were slightly larger for vocabulary and slightly smaller for math computation.

Relationships for father's education (Table B-20) were comparable to relationships for mother's education, except that the "no high-school graduate"–"high-school graduate" gap and the "high-school graduate"–"college graduate" gap were each about 0.5 standard deviations. Relationships of parental education were reduced only slightly when ethnic group was controlled (see Tables B-5 and B-21).

Proportions of adults at each of the three education levels differed among ethnic groups, but did not vary systematically with grade level. For whites, only about a quarter of both mothers and fathers failed to complete high school, but only about 11 percent of the women and 20 percent of the men had earned college degrees. Among blacks, roughly 45 percent had not completed high school, and only about 5 percent of the women and 9 percent of the men were reported as college graduates. The Hispanic sample was sufficiently large to establish that a substantially larger proportion of this group had not finished high school, and a substantially smaller proportion had earned college degrees. For women and men in this group, proportions not finishing high school were about 75 percent and 70 percent, and proportions earning college degrees were about 2 percent and 5 percent respectively.

Economic Status and Achievement. Relationships of poverty status were discussed in detail in Chapter 5. Not controlling for ethnic membership, the poor–non-poor gap is about 0.7 standard deviations in reading comprehension and math concepts, almost .8 standard deviations in vocabulary, and about 0.6 standard deviations in math computation. For the separate ethnic groups, gaps were smaller and differed from one group to another. Gaps were about 0.55 standard deviations for whites, about 0.35 standard deviations for blacks, and about .25 standard deviations for Hispanics. Given that income levels among the poor are more homogeneous than among the non-poor, this pattern may simply reflect the fact that the white non-poor are, on the average, better off than minority non-poor. Across grades, median poverty rates were 10 percent, 45 percent, and 34 percent for whites, blacks and Hispanics, respectively (See Table B-6).

No grade trends were evident in the examination of the Welfare/AFDC variable (see Table B-22). Gaps between the "no welfare" and "welfare not including AFDC" groups were roughly 0.7 standard deviations for vocabulary, 0.65 for reading comprehension, 0.55 for math concepts, and 0.5 for math computation, and gaps between the "no welfare" and "welfare including AFDC" groups were roughly 0.1 standard deviations larger. As with poverty, when ethnic identification is controlled, these gaps are substantially reduced, and gaps for minorities are smaller than for whites (see Table B-23). Across all grade levels, roughly

90 percent of whites, 60 to 65 percent of blacks, and 75 percent of Hispanics received no welfare. The majority of the welfare recipients in the sample also received AFDC.

Urbanization and Achievement. Inspection of Tables B-24 and B-25 for urbanicity and for urbanicity by ethnic group revealed no trends across grades. Due to the large number of categories for urbanization, graphs were created showing the median achievement level for grades 1 – 6 for each ethnic group by urbanization category. One graph was constructed for each content area, using the *below* grade-level tests (see Figures B-21 to B-24). In all areas except math computation, these graphs show a strong interaction of ethnic group and urbanization. The black-white gap is smaller in suburbs and larger in cities of 200,000 to 500,000 than in other areas. Overall, urbanization is most strongly related to vocabulary and reading comprehension, and minority achievement varies more from one location to another than does white achievement.

Ethnic Group, Geographic Region, and Achievement. Ethnic differences in distribution of achievement and other variables have been discussed in many of the preceding sections. It remains in this section only to describe the relation of southern *versus* non-southern region, and the non-uniformity of ethnic group differences by region. As shown in Table B-26, when ethnic group is not controlled, there is an achievement gap of roughly 0.3 standard deviations between South and non-South, achievement being lower in the South than elsewhere. The gaps were slightly larger in vocabulary and slightly smaller in math computation, as is typically the case. When gaps for the three ethnic groups were examined (Table B-27), different regional effects for the three ethnic groups were found. Gaps for white, black, and Hispanic groups in reading comprehension were approximately 0.2, 0.3 and -0.45 standard deviations, respectively, Hispanic achievement being higher in the South than elsewhere. White minority gaps were also examined separately for South and non-South. In reading comprehension, white-black gaps were virtually the same in southern and non-southern states, roughly 0.8 standard deviations. Hispanic gaps, however, were roughly 0.95 standard deviations outside of the South and only 0.3 standard deviations in southern states. This effect may not be stable, due to the very small sample sizes for southern Hispanic groups across grade levels.

SUMMARY

Social, demographic, and economic characteristics are related to achievement singly and in combination. Differences among groups were generally strongest in the vocabulary content area, and weakest in the area of math computation. This is what would be expected, given that vocabulary is the most strongly influenced content area tested by out-of-school factors.

PART III. THE APPENDICES

APPENDIX A

This appendix contains data pertaining to the analyses found in Chapter 2. The first set of tables (A-1 through A-5) presents correlation coefficients between the independent variables by economic status, grade, and ethnicity. The second set (A-6 through A-9) presents correlation coefficients between reading and math achievement and the independent variables by economic status, grade, and ethnicity. The third group of tables (A-10 through A-12) provides multivariate analysis of the achievement variables by economic status, grade, and ethnicity. The fourth and final group of tables (A-13 through A-26) presents unstandardized and standardized regression coefficients for reading and math, student CE status, economic status, grade, and ethnicity.

Table A-1

Correlation Coefficients for Poor/AFDC Students (Above Diagonal Line)
Correlation Coefficients for Non-Poor Students (Below Diagonal Line)

	Parents' Educational Attainment	Ethnic Status	Extra-School Activities	Family Size	Single-Adult Family	Parental Age	Living Quarters	Child's Reading Behavior	Child's TV-Watching Behavior	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)
Parents' Educational Attainment		.17	.12	−.21	−.05	−.21	−.02	.32	−.09	.17	−.11	−.06
Ethnic Status	.15		.08	−.13	.21	.00	−.33	.14	−.16	.22	−.30	−.27
Extra-School Activities	.08	.08		−.02	.04	.01	−.04	.17	−.03	.42	−.01	.01
Family Size	−.11	−.10	.01		.32	.17	−.15	−.08	.05	−.01	.07	−.01
Single-Adult Family	.02	.10	.04	.25		.24	−.35	.03	−.06	.15	−.06	−.14
Parental Age	−.08	.00	.02	.17	.07		−.19	.01	−.07	−.01	.07	−.02
Living Quarters	−.09	−.21	−.07	−.08	−.17	−.11		−.07	.09	−.14	.11	.14
Child's Reading Behavior	.29	.16	.14	−.05	.07	.08	−.10		−.12	.17	−.01	.02
Child's TV- Watching Behavior	−.12	−.12	−.03	.00	.00	−.04	.08	−.14		−.05	.01	.01
Parental Involvement	.20	.13	.34	.00	.12	.00	−.09	.16	−.03		−.09	−.08
Homework Activities (Reading Help)	−.10	−.19	.02	.01	−.03	.05	.04	−.01	−.01	−.10		.89
Homework Activities (Math Help)	−.12	−.17	.02	−.02	−.07	.02	.04	−.01	.00	−.10	.89	

Table A-2

Correlation Coefficients for Grade 1 Students (Above Diagonal Line)
Correlation Coefficients for Grade 2 Students (Below Diagonal Line)

	Parents' Educational Attainment	Ethnic Status	Extra-School Activities	Family Size	Single-Adult Family	Parental Age	Living Quarters	Child's Reading Behavior	Child's TV-Watching Behavior	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)
Parents' Educational Attainment		.24	.13	−.19	.17	−.11	−.15	.33	−.10	.30	−.15	−.17
Ethnic Status	.25		.11	−.12	.30	−.03	−.31	.18	−.11	.24	−.33	−.31
Extra-School Activities	.09	.11		.01	.12	.00	−.12	.14	.00	.38	.01	.00
Family Size	−.20	−.17	.00		.13	.26	−.11	−.06	.02	−.02	.05	−.01
Single-Adult Family	.14	.34	.06	.15		.12	−.38	.13	−.04	.25	−.12	−.15
Parental Age	−.10	−.01	.00	.24	.14		−.15	.03	−.01	.02	.02	−.02
Living Quarters	−.18	−.36	−.11	−.03	−.35	−.12		−.13	.09	−.20	.10	.12
Child's Reading Behavior	.36	.22	.12	−.13	.16	.00	−16		−.06	.19	−.04	−.04
Child's TV- Watching Behavior	−.06	−.12	−.01	.07	−.02	.00	.06	−.10		−.04	.03	.03
Parental Involvement	.26	.23	.34	−.03	.22	.01	−.18	.21	−.05		−.14	−.14
Homework Activities (Reading Help)	−.16	−.31	−.06	.05	−.16	.05	.17	−.12	.04	−.16		.90
Homework Activities (Math Help)	−.18	−.30	−.07	.01	−.20	.02	.13	−.13	.03	−.16	.90	

Table A-3

Correlation Coefficients for Grade 3 Students (Above Diagonal Line)
Correlation Coefficients for Grade 4 Students (Below Diagonal Line)

	Parents' Educational Attainment	Ethnic Status	Extra-School Activities	Family Size	Single-Adult Family	Parental Age	Living Quarters	Child's Reading Behavior	Child's TV-Watching Behavior	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)
Parents' Educational Attainment		.28	.10	−.17	.17	−.05	−.21	.37	−.18	.28	−.15	−.15
Ethnic Status	.28		.13	−.18	.29	.01	−.38	.26	−.16	.28	−.28	−.25
Extra-School Activities	.12	.13		−.06	.12	−.02	−.11	.15	−.05	.37	.01	.23
Family Size	−.19	−.19	−.02		.15	.21	−.02	−.10	.03	−.07	.04	−.01
Single-Adult Family	.14	.26	.10	.17		.12	−.36	.18	−.10	.22	−.10	−.14
Parental Age	−.11	−.02	−.02	.14	.09		−.12	.04	−.04	.00	.01	−.02
Living Quarters	−.16	−.32	−.09	−.01	−.28	−.10		−.20	.15	−.17	.10	.11
Child's Reading Behavior	.41	.27	.16	−.13	.17	.00	−.18		−.14	.21	−.10	−.08
Child's TV- Watching Behavior	−.15	−.18	−.01	.05	−.07	.01	.08	−.16		−.07	.09	.09
Parental Involvement	.24	.23	.37	−.05	.23	−.01	−.17	.22	−.04		−.17	−.15
Homework Activities (Reading Help)	−.14	−.23	−.04	.05	−.07	.02	.08	−.05	.02	−.10		.90
Homework Activities (Math Help)	−.15	−.21	−.03	.01	−.11	−.02	.08	−.04	.01	−.10	.90	

Table A-4

Correlation Coefficients for Grade 5 Students (Above Diagonal Line)
Correlation Coefficients for Grade 6 Students (Below Diagonal Line)

	Parents' Educational Attainment	Ethnic Status	Extra-School Activities	Family Size	Single-Adult Family	Parental Age	Living Quarters	Child's Reading Behavior	Child's TV-Watching Behavior	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)
Parents' Educational Attainment		.27	.12	−.16	.14	−.11	−.14	.35	−.20	.22	−.07	−.07
Ethnic Status	.23		.14	−.22	.30	.02	−.33	.25	−.18	.24	−.19	−.14
Extra-School Activities	.16	.07		−.05	.10	.01	−.03	.20	−.04	.35	.03	.04
Family Size	−.14	−.15	−.02		.14	.08	−.03	−.12	.06	−.07	.07	.03
Single-Adult Family	.14	.24	.03	.20		.15	−.39	.18	−.08	.22	−.05	−.10
Parental Age	−.08	−.03	.00	.01	.10		−.13	.03	−.02	−.01	.02	−.01
Living Quarters	−.14	−.30	−.02	−.06	−.32	−.08		−.16	.11	−.16	.07	.06
Child's Reading Behavior	.36	.19	.17	−.11	.16	.02	−.10		−.20	.24	−.03	−.02
Child's TV- Watching Behavior	−.17	−.15	−.06	.03	−.07	.04	.07	−.14		−.08	.04	.03
Parental Involvement	.23	.15	.40	−.02	.13	−.01	−.10	.23	−.06		−.11	−.11
Homework Activities (Reading Help)	−.07	−.16	−.02	.00	−.05	.01	.09	−.03	−.01	−.04		.88
Homework Activities (Math Help)	−.11	−.13	.00	−.02	−.10	−.02	.09	−.01	.01	−.05	.87	

Table A-5

Correlation Coefficients for Minority Students (Above Diagonal Line)
Correlation Coefficients for Majority Students (Below Diagonal Line)

	Parents' Educational Attainment	Ethnic Status	Extra-School Activities	Family Size	Single-Adult Family	Parental Age	Living Quarters	Child's Reading Behavior	Child's TV-Watching Behavior	Parental Involvement	Homework Activities (Reading Help)	Homework Activities (Math Help)
Parents' Educational Attainment		—	.05	−.23	.08	−.22	−.09	.37	−.08	.5	−.03	.02
Ethnic Status	—		—	—	—	—	—	—	—	—	—	—
Extra-School Activities	.10	—		.01	.08	.02	−.07	.12	−.02	.41	.03	.04
Family Size	−.11	—	.00		.21	.20	−.15	−.08	.05	.00	.01	−.05
Single-Adult Family	.08	—	.05	.23		.19	−.34	.11	−.03	.22	−.08	−.14
Parental Age	−.06	—	.01	.15	.09		−.20	.02	−.04	−.01	.06	−.02
Living Quarters	−.08	—	−.05	−.09	−.23	−.11		−.09	.05	−.18	.06	.07
Child's Reading Behavior	.30	—	.15	−.05	.10	.08	−.10		−.14	.16	.05	.05
Child's TV- Watching Behavior	−.11	—	−.02	−.01	−.02	−.05	.06	−.13		−.01	.01	.00
Parental Involvement	.23	—	.34	−.00	.13	.00	−.06	.17	−.02		−.03	−.03
Homework Activities (Reading Help)	−.08	—	.02	.01	.00	.06	−.01	.02	−.04	−.08		.87
Homework Activities (Math Help)	−.12	—	.02	−.02	−.05	.02	.01	.01	−.03	−.08	.39	

Table A-6

Correlation Coefficients for Reading and Math Achievement by Economic Status

	All Students		Poor/AFDC		Non-Poor	
	Reading	Math	Reading	Math	Reading	Math
Parents' Educational Attainment	.38	.32	.24	.17	.34	.28
Ethnic Status	.28	.26	.26	.24	.20	.18
Extra-School Activities	.12	.12	.11	.10	.10	.09
Family Size	−.15	−.08	−.14	−.07	−.10	−.03
Single-Adult Family	.17	.16	.05	.06	.06	.06
Parental Age	.02	.03	.01	.03	.02	.03
Living Quarters	−.17	−.15	−.12	−.07	−.09	−.09
Child's Reading Behavior	.41	.30	.28	.21	.39	.27
Child's TV-Watching Behavior	−.13	−.10	−.08	−.06	−.11	−.09
Parental Involvement	.21	.19	.14	.10	.15	.15
Homework Activities (Reading Help)	−.20	−.16	−.15	−.12	−.18	−.13
Homework Activities (Math Help)	−.19	−.16	−.12	−.12	−.18	−.14

Table A-7

Correlation Coefficients for Reading and Math Achievement by Grade

	All Students		First		Second		Third		Fourth		Fifth		Sixth	
	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math
Parents' Educational Attainment	.38	.32	.25	.27	.41	.33	.38	.34	.44	.31	.41	.32	.40	.34
Ethnic Status	.28	.26	.12	.22	.29	.27	.34	.32	.36	.28	.37	.29	.26	.20
Extra-School Activities	.12	.12	.05	.09	.13	.08	.12	.14	.17	.14	.16	.14	.14	.12
Family Size	−.15	−.08	−.06	−.07	−.17	−.08	−.14	−.10	−.14	−.08	−.20	−.10	−.17	−.06
Single-Adult Family	.17	.16	.10	.12	.19	.18	.19	.22	.18	.13	.20	.17	.15	.15
Parental Age	.02	.03	.02	.03	.00	.02	.04	.05	−.01	−.01	.05	.03	.02	.04
Living Quarters	−.17	−.15	−.08	−.13	−.19	−.18	−.20	−.20	−.22	−.15	−.22	−.15	−.12	−.12
Child's Reading Behavior	.41	.30	.27	.22	.44	.28	.43	.34	.45	.30	.47	.40	.44	.32
Child's TV-Watching Behavior	−.13	−.10	−.02	−.03	−.10	−.05	−.17	−.14	−.15	−.13	−.18	−.17	−.15	−.12
Parental Involvement	.21	.19	.12	.20	.24	.19	.23	.21	.23	.18	.24	.19	.20	.17
Homework Activities (Reading Help)	−.20	−.16	−.15	−.16	−.30	−.25	−.27	−.22	−.22	−.17	−.16	−.08	−.11	−.07
Homework Activities (Math Help)	−.19	−.16	−.14	−.16	−.28	−.24	−.26	−.22	−.21	−.16	−.16	−.10	−.12	−.09

Table A-8

Correlation Coefficients for Reading and Math Achievement by Ethnicity

	All Students		Minority		Majority	
	Reading	Math	Reading	Math	Reading	Math
Parents' Educational Attainment	.38	.32	.31	.22	.34	.28
Ethnic Status	.28	.26	—	—	—	—
Extra-School Activities	.12	.12	.08	.06	.10	.10
Family Size	−.15	−.08	−.13	−.05	−.10	−.03
Single-Adult Family	.17	.16	.15	.16	.08	.07
Parental Age	.02	.03	.02	.05	.02	.02
Living Quarters	−.17	−.15	−.11	−.09	−.07	−.07
Child's Reading Behavior	.41	.30	.29	.19	.39	.28
Child's TV-Watching Behavior	−.13	−.10	−.08	−.10	−.09	−.06
Parental Involvement	.21	.19	.11	.10	.16	.15
Homework Activities (Reading Help)	−.20	−.16	−.08	−.05	−.15	−.11
Homework Activities (Math Help)	−.19	−.16	−.08	−.07	−.15	−.12

Table A-9

Correlation Coefficients for Reading and Math Achievement by Economic Status and Ethnicity

	POOR/AFDC				NON-POOR			
	Minority		Majority		Minority		Majority	
	Reading	Math	Reading	Math	Reading	Math	Reading	Math
Parents' Educational Attainment	.13	.05	.25	.20	.34	.24	.31	.26
Extra-School Activities	.06	.03	.13	.13	.07	.06	.09	.08
Family Size	−.08	.03	−.15	−.10	−.13	−.07	−.08	−.01
Single-Adult Family	.05	.09	−.04	−.05	.07	.06	.04	.04
Parental Age	.05	.08	−.04	−.03	−.01	.03	.03	.03
Living Quarters	−.04	−.01	−.04	.02	−.07	−.07	−.04	−.06
Child's Reading Behavior	.17	.11	.32	.24	.33	.19	.37	.26
Child's TV-Watching Behavior	−.04	−.07	−.05	.02	−.10	−.11	−.09	−.06
Parental Involvement	.04	.01	.12	.09	.07	.08	.14	.13
Homework Activities Reading Help)	−.04	.00	−.11	−.09	−.09	−.06	−.15	−.11
Homework Activities (Math Help)	−.03	−.04	−.08	−.09	−.09	−.07	−.16	−.12

Table A-10

Multivariate Analysis of Reading and Math Achievement by Economic Status

	All Students		Poor/AFDC		Non-Poor	
	Reading	Math	Reading	Math	Reading	Math
Multiple R	.53	.43	.40	.32	.49	.38
Variables in The Equation	% Accounted For		% Accounted For		% Accounted For	
Head of House's Educational Attainment	6.3	10.0	1.5	.6	5.5.	7.5
Child's Reading Behavior	16.8	4.3	7.7	3.1	15.0	3.9
Ethnic Status	1.4	2.4	4.8	5.7	.7	.9
Homework Activities	2.3	.9	.6	.4	2.3	1.2
Parental Involvement	.1	.3	*	**	.1	.2
Single-Adult Family	.3	.2	*	*	.1	*
Head of House's Age	.1	.1	.1	.1	*	*
Extra-School Activities	*	.1	.2	.2	*	*
Child's TV-Watching Behavior	.1	*	*	**	.1	*
Family Size	.3	*	.5	*	.2	*
Living Quarters	*	*	.2	*	*	*

*Less Than .1 of 1%
**Variable Not In the Equation.

Table A-11

Multivariate Analysis of Reading and Math Achievement by Grade

	All Students		First		Second		Third		Fourth		Fifth		Sixth	
	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math
Multiple R	.53	.43	.35	.36	.58	.44	.56	.49	.59	.42	.60	.48	.54	.43
Variables in The Equation	% Accounted For		% Accounted For		% Accounted For		% Accounted For		% Accounted For		% Accounted For		% Accounted For	
Head of House's Educational Attainment	6.3	10.0	3.0	7.0	7.2	10.7	3.7	11.5	7.5	9.5	6.8	3.9	6.6	11.2
Child's Reading Behavior	16.8	4.3	7.3	1.5	18.9	2.2	18.6	3.4	20.6	2.5	22.4	15.7	19.2	4.6
Ethnic Status	1.4	2.4	*	2.4	1.0	3.9	5.7	5.3	3.7	3.8	4.4	2.5	1.8	1.0
Homework Activities	2.3	.9	1.2	.7	4.6	1.8	2.6	1.6	1.5	.9	.9	.3	.3	.1
Parental Involvement	.1	.3	*	.6	.3	.2	.1	*	*	.1	.1	*	.1	.1
Single-Adult Family	.3	.2	*	**	.2	.3	.2	.6	*	*	.1	.1	.3	.3
Head of House's Age	.1	.1	.1	.1	.2	.1	.1	.1	*	*	.3	.*	*	.2
Extra-School Activities	*	.1	*	*	*	*	*	.4	.3	.4	*	.2	*	*
Child's TV-Watching Behavior	.1	*	*	*	.1	*	.2	*	.1	.2	*	.2	.1	*
Family Size	.3	*	*	*	.3	*	.2	.2	*	*	.5	*	.5	*
Living Quarters	*	*	*	*	*	*	*	*	.3	*	.4	*	*	*

*Less Than .1 of 1%
**Variable Not In the Equation

Table A-12

Multivariate Analysis of Reading and Math Achievement by Ethnicity

	All Students		Minority		Majority	
	Reading	Math	Reading	Math	Reading	Math
Multiple R	.53	.43	.41	.31	.48	.37
Variables in The Equation	% Accounted For		% Accounted For		% Accounted For	
Head of House's Educational Attainment	6.3	10.0	9.6	4.9	5.3	7.7
Child's Reading Behavior	16.8	4.3	3.6	1.0	14.9	4.1
Ethnic Status	1.4	2.4	**	**	**	**
Homework Activities	2.3	.9	.5	.3	1.8	.9
Parental Involvement	.1	.3	**	*	.2	.3
Single-Adult Family	.3	.2	1.1	1.9	.1	*
Head of House's Age	.1	.1	.4	.3	*	*
Extra-School Activities	*	.1	.1	*	*	.1
Child's TV-Watching Behavior	.1	*	*	.4	*	*
Family Size	.3	*	.7	.1	.3	*
Living Quarters	*	*	.1	*	*	*

*Less than .1 of 1
**Variable Not In the Equation

Table A-13

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — All Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F-ratio
Reading Achievement					
	Child's Reading Behavior	.27	.28	.01	1166.22
	Head of House's Educational Attainment	.15	.21	.01	637.86
	Homework Activities	−.12	−.13	.01	273.18
	Ethnic Status	.22	.09	.02	113.11
	Family Size	−.05	−.07	.00	89.70
	Single-Adult Family	.12	.05	.02	30.75
	Parental Involvement	.04	.03	.01	14.69
	Head of House's Age	.04	.03	.01	18.89
	Child's TV-Watching Behavior	−.03	−.03	.01	12.12
	Extra-School Activities	.02	.02	.01	8.00
	Living Quarters	−.05	−.02	.02	5.39
Intercept −1.06					
R .53					
R^2 .28					
Math Achievement					
	Head of House's Educational Attainment	.13	.19	.01	444.60
	Child's Reading Behavior	.17	.18	.01	434.15
	Ethnic Status	.27	.11	.02	158.82
	Homework Activities	−.08	−.09	.01	129.09
	Parental Involvement	.05	.04	.01	21.69
	Single-Adult Family	.10	.04	.02	19.21
	Head of House's Age	.04	.03	.01	14.95
	Extra-School Activities	.02	.03	.01	12.96
	Child's TV-Watching Behavior	−.02	−.02	.01	5.80
	Family Size	−.01	−.02	.01	5.52
	Living Quarters	−.05	−.02	.02	4.33
Intercept −1.02					
R .43					
R^2 .18					

Table A-14

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Title I Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F - ratio
Reading Achievement					
	Child's Reading Behavior	.10	.15	.02	40.51
	Homework Activities	−.07	−.12	.01	26.08
	Ethnic Status	.10	.08	.03	9.22
	Head of House's Educational Attainment	.02	.05	.01	4.00
	Family Size	−.01	−.04	.01	3.19
	Living Quarters	−.07	−.05	.04	3.45
	Head of House's Age	−.03	−.05	.02	3.83
	Extra-School Activities	.01	.02	.01	1.03
	Child'S TV-Watching Behavior	−.02	−.03	.02	1.52
	Parental Involvement	.02	.02	.02	.72
	Single-Adult Family	.00	.00	.04	.02
Intercept −.71					
R .30					
R^2 .08					
Math Achievement					
	Ethnic Status	.18	.13	.04	22.59
	Homework Activities	−.05	−.09	.01	15.49
	Extra-School Activities	.03	.06	.01	5.40
	Head of House's Educational Attainment	.03	.05	.01	4.46
	Single-Adult Family	.08	.05	.04	3.41
	Child's Reading Behavior	.03	.03	.02	1.93
	Family Size	−.01	−.02	.01	1.06
	Child's TV-Watching Behavior	−.01	−.01	.02	.26
	Living Quarters	.02	.01	.04	.22
	Parental Involvement	.01	.01	.02	.12
	Head of House's Age	.00	−.01	.02	.07
Intercept −.84					
R .24					
R^2 .05					

Table A-15

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Other CE Students Only

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F - ratio
Reading Achievement					
	Child's Reading Behavior	.24	.28	.02	109.33
	Head of House's Educational Attainment	.09	.13	.02	21.24
	Homework Activities	−.09	−.10	.02	16.88
	Ethnic Status	.11	.06	.05	3.82
	Single-Adult Family	.14	.06	.06	5.37
	Family Size	−.03	−.06	.01	5.85
	Parental Involvement	.07	.06	.03	5.60
	Extra-School Activities	−.04	−.06	.02	5.39
	Living Quarters	−.07	−.03	.06	1.29
	Child's TV-Watching Behavior	−.02	−.01	.03	.29
	Head of House's Age	−.01	−.01	.03	.17
Intercept −.85					
R .46					
R^2 .20					
Math Achievement					
	Child's Reading Behavior	.13	.15	.03	26.25
	Homework Activities	−.08	−.10	.02	15.12
	Parental Involvement	.11	.09	.03	10.73
	Head of House's Educational Attainment	.06	.08	.02	7.85
	Ethnic Status	.14	.07	.06	5.71
	Single-Adult Family	.14	.06	.07	4.07
	Child's TV-Watching Behavior	.05	.04	.03	1.95
	Living Quarters	−.05	−.02	.07	.57
	Head of House's Age	−.02	−.01	.03	.31
	Family Size	.00	−.01	.01	.09
	Extra-School Activities	.00	−.01	.02	.05
Intercept −.77					
R .32					
R^2 .09					

Table A-16

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Non-CE Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F - ratio
Reading Achievement					
	Child's Reading Behavior	.26	.27	.01	863.29
	Head of House's Educational Attainment	.14	.20	.01	452.31
	Homework Activities	−.12	−.13	.01	203.62
	Ethnic Status	.22	.09	.03	77.99
	Head of House's Age	.06	.05	.01	32.58
	Family Size	−.05	−.07	.01	58.89
	Single-Adult Family	.13	.05	.03	23.31
	Extra-School Activities	.03	.04	.01	15.34
	Parental Involvement	.04	.03	.01	8.82
	Child's TV-Watching Behavior	−.03	−.02	.01	6.35
	Living Quarters	−.04	−.01	.03	2.16
Intercept −1.05					
R .50					
R^2 .25					
Math Achievement					
	Head of House's Educational Attainment	.13	.18	.01	323.08
	Child's Reading Behavior	.17	.18	.01	330.69
	Ethnic Status	.29	.11	.03	112.72
	Homework Activities	−.07	−.08	.01	78.15
	Parental Involvement	.05	.04	.01	14.40
	Head of House's Age	.05	.04	.01	22.12
	Extra-School Activities	.03	.03	.01	12.20
	Single-Adult Family	.08	.03	.03	8.32
	Child's TV-Watching Behavior	−.03	−.02	.01	5.29
	Living Quarters	−.06	−.02	.03	4.35
	Family Size	.00	−.01	.01	.37
Intercept −1.00					
R .40					
R^2 .16					

Table A-17

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Poor/AFDC Students

Dependnet Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F-ratio
Reading Achievement					
	Child's Reading Behavior	.17	.20	.02	108.56
	Ethnic Status	.23	.14	.03	48.68
	Head of House's Educational Attainment	.08	.12	.01	36.52
	Homework Activities	−.06	−.09	.01	21.78
	Family Size	−.04	−.10	.01	24.40
	Living Quarters	−.07	−.04	.03	4.170
	Extra-School Activities	.03	.04	.01	4.49
	Head of House's Age	.03	.04	.01	3.95
	Single-Adult Family	.03	.02	.03	1.13
	Parental Involvement	.02	.02	.02	.79
	Child's TV-Watching Behavior	−.01	−.01	.02	.27
Intercept −.88					
R .40					
R^2 .16					
Math Achievement					
	Ethnic Status	.29	.18	.03	74.68
	Child's Reading Behavior	.13	.15	.02	57.24
	Head of House's Educational Attainment	.07	.09	.01	20.61
	Homework Activities	−.05	−.07	.01	15.44
	Extra-School Activities	.03	.05	.01	6.46
	Head of House's Age	.04	.05	.02	5.71
	Living Quarters	.04	.02	.03	1.28
	Family Size	−.01	−.02	.01	1.25
	Single-Adult Family	.03	.02	.03	.80
Intercept −1.08					
R .32					
R^2 .10					

Table A-18

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Non-Poor Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.29	.29	.01	1018.08
	Head of House's Educational Attainment	.15	.21	.01	524.23
	Homework Activities	−.13	−.14	.01	249.63
	Ethnic Status	.21	.07	.03	62.37
	Family Size	−.05	−.07	.01	58.57
	Single-Adult Family	.13	.04	.03	15.15
	Parental Involvement	.03	.03	.01	8.11
	Child's TV-Watching Behavior	−.04	−.03	.01	13.08
	Head of House's Age	.04	.03	.01	11.88
	Extra-School Activities	.02	.02	.01	7.21
	Living Quarters	−.02	−.01	.03	.61
Intercept −1.11					
R .49					
R^2 .24					
Math Achievement					
	Head of House's Educational Attainment	.13	.18	.01	343.98
	Child's Reading Behavior	.18	.18	.01	350.32
	Homework Activities	−.08	−.10	.01	106.92
	Ethnic Status	.24	.08	.03	74.85
	Parental Involvement	.05	.04	.01	18.22
	Extra-School Activities	.03	.03	.01	10.11
	Head of House's Age	.03	.03	.01	8.12
	Living Quarters	−.07	−.02	.03	5.78
	Child's TV-Watching Behavior	−.03	−.02	.01	6.83
	Single-Adult Family	.07	.02	.03	4.03
	Family Size	−.01	−.01	.01	1.13
Intercept −.94					
R .38					
R^2 .14					

Table A-19

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Grade 1 Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.22	.21	.02	97.50
	Head of House's Educational Attainment	.12	.16	.02	53.55
	Homework Activities	−.10	−.11	.02	28.78
	Head of House's Age	.05	.04	.02	3.86
	Single-Adult Family	.09	.03	.06	2.34
	Family Size	−.02	−.03	.01	2.75
	Child's TV-Watching Behavior	.02	.01	.03	.42
	Living Quarters	−.03	−.01	.05	.28
	Ethnic Status	−.03	−.01	.05	.24
	Parental Involvement	.01	.01	.03	.28
	Extra-School Activities	−.01	−.01	.02	.26
Intercept −.72					
R .35					
R^2 .12					
Math Achievement					
	Head of House's Educational Attainment	.11	.16	.02	50.25
	Ethnic Status	.23	.10	.05	20.42
	Child's Reading Behavior	.13	.12	.02	35.62
	Homework Activities	−.07	−.09	.02	18.54
	Parental Involvement	.10	.08	.03	12.75
	Head of House's Age	.05	.05	.02	5.19
	Family Size	−.02	−.03	.01	2.71
	Living Quarters	−.08	−.03	.05	2.18
	Extra-School Activities	.01	.01	.02	.27
	Child's TV-Watching Behavior	.01	.01	.03	.23
Intercept −.69					
R .36					
R^2 .12					

Table A-20

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Grade 2 Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.28	.28	.02	213.38
	Head of House's Educational Attainment	.16	.22	.01	124.76
	Homework Activities	−.17	−.19	.02	98.69
	Ethnic Status	.15	.06	.05	9.42
	Parental Involvement	.06	.05	.02	5.83
	Family Size	−.05	−.09	.01	20.75
	Single-Adult Family	.14	.05	.05	6.95
	Head of House's Age	.06	.05	.02	6.70
	Child's TV-Watching Behavior	−.05	−.04	.02	4.39
	Extra-School Activities	.03	.03	.02	2.74
	Living Quarters	−.03	−.01	.05	.40
Intercept −1.05					
R .58					
R^2 .33					
Math Achievement					
	Head of House's Educational Attainment	.14	.20	.02	85.13
	Ethnic Status	.27	.11	.05	25.27
	Child's Reading Behavior	.14	.14	.02	46.91
	Homework Activities	−.11	−.13	.02	43.29
	Single-Adult Family	.11	.04	.06	3.81
	Parental Involvement	.06	.05	.03	4.97
	Head of House's Age	.05	.04	.02	4.27
	Living Quarters	−.07	−.03	.06	1.40
	Family Size	−.01	−.03	.01	.44
	Child's TV-Watching Behavior	.01	.00	.03	.06
	Extra-School Activities	.00	.00	.02	.05
Intercept −.94					
R .44					
R^2 .19					

Table A-21

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Grade 3 Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – Ratio
Reading Achievement					
	Child's Reading Behavior	.27	.28	.02	198.44
	Ethnic Status	.30	.13	.05	35.67
	Head of House's Educational Attainment	.13	.18	.01	74.76
	Homework Activities	−.15	−.17	.02	78.45
	Child's TV-Watching Behavior	−.06	−.05	.02	6.50
	Family Size	−.04	−.06	.01	11.23
	Single-Adult Family	.10	.04	.05	3.81
	Head of House's Age	.05	.04	.02	4.96
	Parental Involvement	.04	.03	.03	2.39
	Extra-School Activities	.02	.02	.02	1.31
	Living Quarters	−.02	−.01	.05	.21
Intercept −1.07					
R .56					
R^2 .31					
Math Achievement					
	Head of House's Educational Attainment	.12	.18	.02	66.13
	Ethnic Status	.31	.13	.05	34.08
	Child's Reading Behavior	.17	.18	.02	76.48
	Homework Activities	−.11	−.13	.02	42.81
	Single-Adult Family	.20	.08	.06	13.16
	Extra-School Activities	.05	.06	.02	8.69
	Head of House's Age	.06	.05	.02	6.31
	Family Size	−.03	−.05	.01	5.97
	Child's TV-Watching Behavior	−.04	−.03	.03	2.08
	Parental Involvement	.02	.02	.03	.51
	Living Quarters	−.03	.01	.05	.30
Intercept −1.10					
R .49					
R^2 .23					

Table A-22

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Grade 4 Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.27	.28	.02	184.06
	Head of House's Educational Attainment	.17	.23	.01	126.59
	Ethnic Status	.33	.14	.05	43.32
	Homework Activities	−.12	−.13	.02	46.15
	Extra-School Activities	.04	.05	.02	7.37
	Living Quarters	−.14	−.05	.05	6.82
	Child's TV-Watching Behavior	−.05	−.04	.02	3.84
	Parental Involvement	.04	.03	.03	1.94
	Head of House's Age	.03	.02	.02	1.79
	Single-Adult Family	.08	.03	.05	2.18
	Family Size	−.02	−.03	.01	2.06
Intercept −.124					
R .59					
R^2 .34					
Math Achievement					
	Head of House's Educational Attainment	.12	.17	.02	50.53
	Ethnic Status	.31	.13	.06	30.70
	Child's Reading Behavior	.16	.16	.02	50.57
	Homework Activities	−.08	−.10	.02	21.70
	Extra-School Activities	.05	.06	.02	6.85
	Child's TV-Watching Behavior	−.06	−.05	.03	5.65
	Parental Involvement	.04	.03	.03	2.23
	Living Quarters	−.06	−.02	.06	.96
	Head of House's Age	.01	.01	.02	.34
	Single-Adult Family	.03	.01	.06	.19
	Family Size	.00	.00	.01	.02
Intercept −.91					
R .42					
R^2 .17					

Table A-23

Unstandardized and Standard Regression Coefficients for Reading and Math Achievement — Grade 5 Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.30	.31	.02	254.68
	Head of House's Educational Attainment	.15	.22	.01	124.89
	Ethnic Status	.34	.14	.05	49.61
	Homework Activities	−.09	−.09	.02	28.32
	Family Size	−.06	−.10	.01	27.84
	Living Quarters	−.14	−.05	.05	6.90
	Head of House's Age	.06	.05	.02	9.15
	Parental Involvement	.04	.03	.03	2.85
	Single-Adult Family	.12	.04	.05	4.92
	Extra-School Activities	.03	.03	.02	2.41
	Child's TV-Watching Behavior	−.04	−.03	.02	2.28
Intercept −1.24					
R .60					
R^2 .36					
Math Achievement					
	Child's Reading Behavior	.26	.27	.02	163.44
	Head of House's Educational Attainment	.12	.17	.02	61.18
	Ethnic Status	.32	.13	.05	36.08
	Homework Activities	−.05	−.05	.02	7.74
	Child's TV-Watching Behavior	−.06	−.05	.03	5.69
	Extra-School Activities	.03	.04	.02	3.71
	Single-Adult Family	.08	.03	.06	2.00
	Head of House's Age	.03	.02	.02	1.54
	Parental Involvement	.02	.02	.03	.68
	Living Quarters	−.03	−.01	.06	.23
	Family Size	.00	−.01	.01	.10
Intercept −1.34					
R .48					
R^2 .23					

Table A-24

Unstandardized and Standard Regression Coefficients For Reading and Math Achievement — Grade 6 Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.28	.30	.02	270.23
	Head of House's Educational Attainment	.16	.22	.01	149.33
	Ethnic Status	.27	.10	.05	30.29
	Family Size	−.06	−.10	.01	30.42
	Homework Activities	−.06	−.06	.02	14.84
	Single-Adult Family	.16	.06	.05	10.65
	Child's TV-Watching Behavior	−.06	−.04	.02	6.86
	Parental Involvement	.04	.04	.02	3.14
	Head of House's Age	.04	.03	.02	3.37
	Extra-School Activities	.02	.03	.01	2.73
	Living Quarters	.02	.01	.05	.10
Intercept −1.36					
R .54					
R^2 .29					
Math Achievement					
	Head of House's Educational Attainment	.15	.22	.01	119.29
	Child's Reading Behavior	.19	.20	.02	105.34
	Ethnic Status	.22	.08	.05	18.02
	Single-Adult Family	.13	.05	.05	6.05
	Head of House's Age	.06	.05	.02	8.85
	Parental Involvement	.04	.03	.03	2.93
	Homework Activities	−.04	−.04	.02	5.02
	Child's TV-Watching Behavior	−.04	−.03	.02	3.04
	Extra-School Activities	.02	.02	.02	1.62
	Living Quarters	−.04	−.01	.06	.43
	Family Size	.00	.00	.01	.04
Intercept −1.30					
R .43					
R^2 .18					

Table A-25

Unstandardized and Standard Regression Coefficients For Reading and Math Achievement — Minority Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Head of House's Educational Attainment	.14	.21	.01	124.19
	Child's Reading Behavior	.16	.19	.02	102.54
	Single-Adult Family	.17	.10	.03	28.13
	Famil Syze	−.04	−.10	.01	32.59
	Homework Activities	−.06	−.08	.01	19.94
	Head of House's Age	.05	.06	.02	11.80
	Living Quarters	−.06	−.04	.03	4.46
	Extra-School Activities	.02	.03	.01	3.84
	Child's TV-Watching Behavior	−.03	−.03	.02	2.84
Intercept −1.00					
R .41					
R^2 .16					
Math Achievement					
	Head of House's Educational Attainment	.12	.18	.01	76.75
	Single-Adult Family	.19	.11	.03	30.19
	Child's Reading Behavior	.08	.10	.02	25.47
	Child's TV-Watching Behavior	−.07	−.06	.02	13.44
	Homework Activities	−.05	−.07	.01	13.59
	Head of House's Age	.06	.07	.02	13.84
	Family Size	−.02	−.04	.01	5.47
	Extra-School Activities	.01	.02	.01	1.33
	Parental Involvement	.02	.02	.02	.90
	Living Quarters	−.01	−.01	.03	.18
Intercept −.92					
R .31					
R^2 .09					

Table A-26

Unstandardized and Standard Regression Coefficients For Reading and Math Achievement — Majority Students

Dependent Variables	Independent Variables	Unstandardized Regression Coefficients (b)	Standard Regression Coefficients (Beta)	Standard Error of b	F – ratio
Reading Achievement					
	Child's Reading Behavior	.29	.30	.01	1080.69
	Head of House's Educational Attainment	.15	.21	.01	515.62
	Homework Activities	−.13	−.14	.01	248.07
	Family Size	−.05	−.07	.01	68.82
	Parental Involvement	.05	.04	.01	16.02
	Single-Adult Family	.11	.04	.03	14.83
	Child's TV-Watching Behavior	−.04	−.03	.01	10.17
	Head of House's Age	.03	.03	.01	6.93
	Extra-School Activities	.02	.02	.01	5.40
	Living Quarters	−.05	−.01	.03	2.78
Intercept −.85					
R .48					
R^2 .23					
Math Achievement					
	Head of House's Educational Attainment	.14	.19	.01	366.20
	Child's Reading Behavior	.20	.20	.01	423.11
	Homework Activities	−.08	−.10	.01	107.26
	Parental Involvement	.06	.05	.01	21.50
	Extra-School Activities	.03	.03	.01	11.89
	Living Quarters	−.08	−.02	.03	6.01
	Head of House's Age	.02	.02	.01	4.02
	Single-Adult Family	.06	.02	.03	4.13
	Family Size	−.01	−.01	.01	2.34
	Child's TV-Watching Behavior	−.01	−.01	.01	.92
Intercept −.75					
R .37					
R^2 .13					

APPENDIX B

TABLES AND FIGURES FOR PART II.

Table B-1

Mean Achievement by Mother's Education and by Grade

Mother's Education	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
Not High School Graduate	-0.580	-0.523	-0.505	-0.499	-0.521	-0.585
High School Graduate	0.165	0.120	0.131	0.147	0.145	0.166
College Graduate	0.659	0.615	0.447	0.716	0.529	0.749
Vocabulary Test At Grade Level						
Not High School Graduate	-0.272	-0.579	-0.458	-0.451	-0.515	-0.475
High School Graduate	0.069	0.115	0.121	0.124	0.142	0.132
College Graduate	0.405	0.831	0.637	0.748	0.678	0.747
Reading Comprehension Test Below Grade Level						
Not High School Graduate	-0.407	-0.538	-0.428	-0.451	-0.494	-0.511
High School Graduate	0.113	0.134	0.132	0.142	0.140	0.139
College Graduate	0.424	0.650	0.380	0.610	0.467	0.719
Reading Comprehension Test At Grade Level						
Not High School Graduate	-0.165	-0.456	-0.396	-0.432	-0.478	-0.463
High School Graduate	0.041	0.091	0.103	0.129	0.142	0.121
College Graduate	0.274	0.758	0.583	0.674	0.581	0.743
Math Concepts Test Below Grade Level						
Not High School Graduate	-0.528	-0.479	-0.388	-0.451	-0.518	-0.503
High School Graduate	0.145	0.117	0.085	0.129	0.137	0.153
College Graduate	0.535	0.515	0.608	0.596	0.456	0.560
Math Concepts Test At Grade Level						
Not High School Graduate	-0.377	-0.419	-0.444	-0.429	-0.489	-0.421
High School Graduate	0.116	0.095	0.112	0.123	0.145	0.115
College Graduate	0.377	0.529	0.582	0.658	0.579	0.638
Math Computation Test Below Grade Level						
Not High School Graduate		-0.376	-0.332	-0.337	-0.374	-0.349
High School Graduate		0.081	0.078	0.088	0.096	0.094
College Graduate		0.492	0.464	0.582	0.429	0.511
Math Computation Test At Grade Level						
Not High School Graduate	-0.245	-0.328	-0.224	-0.275	-0.399	-0.259
High School Graduate	0.077	0.073	0.034	0.090	0.111	0.050
College Graduate	0.282	0.423	0.435	0.357	0.531	0.547
Total Weight for Each Grade	2300.006	2049.089	2075.745	1953.464	1936.687	2346.341

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-2
Mean Achievement by Poverty Status and by Grade

Poverty Status	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
Poor	-0.648	-0.601	-0.759	-0.637	-0.628	-0.665
Non-poor	0.131	0.120	0.157	0.144	0.122	0.116
Vocabulary Test At Grade Level						
Poor	-0.229	-0.668	-0.586	-0.552	-0.595	-0.533
Non-poor	0.049	0.137	0.134	0.129	0.121	0.099
Reading Comprehension Test Below Grade Level						
Poor	-0.571	-0.606	-0.651	-0.556	-0.604	-0.560
Non-poor	0.116	0.124	0.152	0.127	0.119	0.098
Reading Comprehension Test At Grade Level						
Poor	-0.160	-0.471	-0.549	-0.484	-0.531	-0.540
Non-poor	0.033	0.106	0.129	0.112	0.108	0.098
Math Concepts Test Below Grade Level						
Poor	-0.608	-0.570	-0.558	-0.649	-0.621	-0.576
Non-poor	0.116	0.118	0.123	0.140	0.112	0.101
Math Concepts Test At Grade Level						
Poor	-0.422	-0.489	-0.675	-0.508	-0.556	-0.530
Non-poor	0.084	0.101	0.145	0.115	0.110	0.096
Math Computation Test Below Grade Level						
Poor		-0.509	-0.421	-0.502	-0.489	-0.429
Non-poor		0.102	0.117	0.113	0.085	0.076
Math Computation Test At Grade Level						
Poor	-0.292	-0.391	-0.407	-0.329	-0.426	-0.402
Non-poor	0.059	0.080	0.092	0.075	0.086	0.073
Total Weight for Each Grade	2719.648	2400.913	2450.157	2318.899	2313.112	2704.318

NOTE: A blank indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-3

Mean Achievement by Ethnic Group and by Grade

Ethnicity	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
White	0.182	0.132	0.216	0.216	0.195	0.171
Black	-0.659	-0.488	-0.870	-0.795	-0.797	-0.804
Hispanic	-0.420	-0.589	-0.922	-0.729	-0.716	-0.871
Vocabulary Test At Grade Level						
White	0.073	0.173	0.200	0.184	0.192	0.135
Black	-0.196	-0.647	-0.694	-0.616	0.731	-0.596
Hispanic	-0.310	-0.656	-0.700	-0.657	-0.608	-0.650
Reading Comprehension Test Below Grade Level						
White	0.165	0.171	0.212	0.189	0.188	0.158
Black	-0.571	-0.605	-0.754	-0.655	-0.750	-0.752
Hispanic	-0.494	-0.628	-0.793	-0.645	-0.571	-0.762
Reading Comprehension Test At Grade Level						
White	0.040	0.136	0.185	0.173	0.186	0.141
Black	-0.062	-0.446	-0.610	-0.564	-0.703	-0.665
Hispanic	-0.270	-0.501	-0.635	-0.643	-0.583	-0.619
Math Concepts Test Below Grade Level						
White	0.174	0.155	0.173	0.191	0.180	0.149
Black	-0.622	-0.642	-0.637	-0.709	-0.788	-0.745
Hispanic	-0.556	-0.514	-0.715	-0.725	-0.646	-0.685
Math Concepts Test At Grade Level						
White	0.116	0.140	0.213	0.177	0.187	0.133
Black	-0.399	-0.548	-0.793	-0.629	-0.704	-0.596
Hispanic	-0.389	-0.486	-0.804	-0.605	-0.629	-0.698
Math Computation Test Below Grade Level						
White		0.137	0.163	0.135	0.130	0.092
Black		-0.559	-0.631	-0.560	-0.591	-0.502
Hispanic		-0.455	-0.511	-.335	-0.282	-0.349
Math Computation Test At Grade Level						
White	0.088	0.114	0.132	0.099	0.134	0.075
Black	-0.314	-0.491	-0.507	-0.348	-0.504	-0.376
Hispanic	-0.251	-0.282	-0.391	-0.365	-0.445	-0.312
Total Weight for Each Grade	2696.138	2411.270	2447.269	2311.785	2302.719	2713.648

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-4

Mean Achievement (Math) by Mother's Education and Poverty Status, by Grade

Mother's Education	Poverty Status	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
Not High School Graduate	Poor	-0.800	-0.755	-0.978	-0.844	-0.802	-0.842
	Nonpoor	-0.407	-0.379	-0.246	-0.343	-0.356	-0.450
High School Graduate	Poor	-0.342	-0.363	-0.419	-0.250	-0.332	-0.391
	Nonpoor	0.239	0.191	0.222	0.237	0.223	0.238
College Graduate	Poor	-0.493	0.290	0.530	0.736	-0.355	1.005
	Nonpoor	0.768	0.652	0.525	0.816	0.623	0.792
Vocabulary Test At Grade Level							
Not High School Graduate	Poor	-0.281	-0.813	-0.746	-0.727	-0.767	-0.660
	Nonpoor	-0.241	-0.424	-0.307	-0.319	-0.368	-0.367
High School Graduate	Poor	-0.099	-0.472	-0.371	-0.225	-0.275	-0.334
	Nonpoor	0.102	0.199	0.208	0.204	0.220	0.193
College Graduate	Poor	–	0.440	0.908	0.850	-0.432	0.610
	Nonpoor	0.429	0.887	0.721	0.842	0.740	0.792
Reading Comprehension Below Grade Level	Test						
Not High School Graduate	Poor	-0.695	-0.811	-0.831	-0.712	-0.786	-0.727
	Nonpoor	-0.255	-0.404	-0.227	-0.328	-0.327	-0.397
High School Graduate	Poor	-0.281	-0.297	-0.383	-0.219	-0.315	-0.343
	Nonpoor	0.189	0.214	0.235	0.222	0.221	0.203
College Graduate	Poor	0.133	0.251	0.394	0.190	0.057	1.045
	Nonpoor	0.447	0.737	0.483	0.714	0.545	0.757
Reading Comprehension At Grade Level	Test						
Not High School Graduate	Poor	-0.188	-0.570	-0.665	-0.629	-0.681	-0.665
	Nonpoor	-0.130	-0.351	-0.250	-0.331	-0.355	-0.367
High School Graduate	Poor	-0.024	-0.317	-0.403	-0.199	-0.270	-0.364
	Nonpoor	0.060	0.150	0.185	0.195	0.217	0.191
College Graduate	Poor	-0.123	0.648	0.682	0.364	-0.332	1.087
	Nonpoor	0.237	0.821	0.691	0.788	0.634	0.783

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-4 (continued)

Mean Achievement (Math) by Mother's Education and Poverty Status, by Grade

Mother's Education	Poverty Status	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
Not High School Graduate	Poor	-0.762	-0.695	-0.715	-0.857	-0.818	-0.731
	Nonpoor	-0.368	-0.375	-0.228	-0.283	-0.354	-0.383
High School Graduate	Poor	-0.299	-0.388	-0.316	-0.256	-0.310	-0.342
	Nonpoor	0.213	0.204	0.164	0.218	0.214	0.218
College Graduate	Poor	-0.936	0.121	0.500	0.056	-0.183	0.721
	Nonpoor	0.582	0.563	0.688	0.682	0.556	0.598
Math Concepts Test At Grade Level							
Not High School Graduate	Poor	-0.478	-0.600	-0.859	-0.664	-0.714	-0.626
	Nonpoor	-0.274	-0.301	-0.243	-0.310	-0.342	-0.326
High School Graduate	Poor	-0.309	-0.356	-0.426	-0.233	-0.279	-0.461
	Nonpoor	0.165	0.153	0.206	0.193	0.211	0.190
College Graduate	Poor	–	0.397	0.859	0.342	-0.329	0.806
	Nonpoor	0.416	0.575	0.653	0.741	0.618	0.663
Math Computation Test Below Grade Level							
Not High School Graduate	Poor		-0.599	-0.663	-0.631	-0.601	-0.480
	Nonpoor		-0.285	-0.168	-0.207	-0.228	-0.269
High School Graduate	Poor		-0.418	-0.348	-0.255	-0.287	-0.400
	Nonpoor		0.159	0.149	0.158	0.139	0.151
College Graduate	Poor		0.449	0.466	-0.186	0.028	0.752
	Nonpoor		0.533	0.563	0.701	0.473	0.513
Math Computation Test At Grade Level							
Not High School Graduate	Poor	-0.320	-0.452	-0.468	-0.441	-0.519	-0.455
	Nonpoor	-0.195	-0.258	-0.122	-0.196	-0.311	-0.163
High School Graduate	Poor	-0.208	-0.358	-0.347	-0.158	-0.263	-0.367
	Nonpoor	0.119	0.131	0.105	0.136	0.172	0.099
College Graduate	Poor	-0.203	0.414	0.044	0.251	-0.112	–
	Nonpoor	0.280	0.462	0.503	0.427	0.550	0.570
Total Weight for Each Grade		2618.439	2332.835	2375.737	2245.256	2241.590	2604.529

NOTE: A blank space indicates that only the at-grade-level math computation was administered at grade 1. A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-5

Mean Achievement (Reading) by Mother's Education and Ethnic Group, by Grade

Mother's Education	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
Not a High School Graduate	White	-0.397	-0.356	-0.181	-0.240	-0.244	-0.360
	Black	-0.930	-0.778	-0.042	-0.975	-0.945	-1.053
	Hispanic	-0.529	-0.782	-1.015	-0.905	-0.911	-1.034
High School Graduate	White	0.289	0.196	0.279	0.297	0.282	0.287
	Black	-0.474	-0.253	-0.760	-0.634	-0.649	-0.626
	Hispanic	-0.191	-0.205	-0.781	-0.344	-0.023	-0.365
College Graduate	White	0.855	0.697	0.582	0.908	0.620	0.828
	Black	0.072	-0.092	0.120	0.032	-0.483	0.116
	Hispanic	0.419	–	0.046	0.382	-0.110	–
Vocabulary Test At Grade Level							
Not a High School Graduate	White	-0.217	-0.393	-0.234	-0.283	-0.275	-0.338
	Black	-0.310	-0.845	-0.828	-0.756	-0.892	-0.733
	Hispanic	-0.314	-0.856	-0.774	-0.709	-0.801	-0.730
High School Graduate	White	0.126	0.233	0.274	0.260	0.281	0.237
	Black	-0.122	-0.539	-0.619	-0.486	-0.587	-0.513
	Hispanic	-0.303	-0.187	-0.617	-0.562	0.005	-0.395
College Graduate	White	0.456	-0.948	0.775	0.954	0.776	0.818
	Black	0.109	-0.209	0.335	-0.065	-0.298	0.180
	Hispanic	-0.093	–	0.242	-0.124	0.472	–
Reading Comprehension Test Below Grade Level							
Not a High School Graduate	White	-0.232	-0.340	-0.147	-0.248	-0.240	-0.306
	Black	-0.755	-0.922	-0.879	-0.791	-0.917	-0.923
	Hispanic	-0.570	-0.841	-0.896	-0.764	-0.758	-0.938
High School Graduate	White	0.253	0.252	0.284	0.273	0.280	0.253
	Black	-0.476	-0.389	-0.686	-0.508	-0.603	-0.637
	Hispanic	-0.410	-0.107	-0.652	-0.318	-0.014	-0.246
College Graduate	White	0.463	0.790	0.507	0.809	0.558	0.801
	Black	0.216	-0.078	–	-0.104	-0.268	0.021
	Hispanic	-0.374	–	–	-0.089	–	–
Reading Comprehension Test At Grade Level							
Not a High School Graduate	White	-0.109	-0.349	-0.194	-0.271	-0.260	-0.310
	Black	-0.132	-0.574	-0.681	-0.656	-0.824	-0.868
	Hispanic	-0.318	-0.562	-0.712	-0.725	-0.729	-0.699
High School Graduate	White	0.064	0.188	0.243	0.252	0.285	0.230
	Black	0.004	-0.385	-0.593	-0.493	-0.590	-0.525
	Hispanic	-0.086	-0.295	-0.484	-0.488	-0.142	-0.304
College Graduate	White	0.270	0.886	0.728	0.878	0.671	0.815
	Black	-0.040	0.003	0.432	-0.049	-0.150	0.281
	Hispanic	–	–	0.116	–	-0.021	–

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-5 (continued)

Mean Achievement (Math) by Mother's Education and Ethnic Group, by Grade

Mother's Education	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
Not a High School Graduate	White	-0.346	-0.299	-0.173	-0.243	-0.267	-0.325
	Black	-0.806	-0.839	-0.759	-0.824	-0.939	-0.920
	Hispanic	-0.661	-0.746	-0.787	-0.895	-0.882	-0.806
High School Graduate	White	0.278	0.225	0.209	0.270	0.280	0.267
	Black	-0.529	-0.480	-0.543	-0.632	-0.656	-0.602
	Hispanic	-0.337	0.043	-0.539	-0.316	-0.013	-0.319
College Graduate	White	0.631	0.607	0.763	0.752	0.538	0.626
	Black	0.034	-0.535	0.289	0.063	-0.404	0.017
	Hispanic	-0.029	–	-0.148	-0.093	–	–
Math Concepts Test At Grade Level							
Not a High School Graduate	White	-0.244	-0.241	-0.171	-0.219	-0.280	-0.264
	Black	-0.547	-0.700	-0.916	-0.786	-0.745	–
	Hispanic	-0.443	-0.658	-0.911	-0.716	-0.778	-0.811
High School Graduate	White	0.196	0.180	0.275	0.241	0.288	0.217
	Black	-0.321	-0.432	-0.718	-0.508	-0.660	-0.510
	Hispanic	-0.319	-0.104	-0.690	-0.366	-0.128	-0.299
College Graduate	White	0.469	0.641	0.696	0.797	0.676	0.695
	Black	-0.103	-0.280	0.196	0.194	-0.473	0.171
	Hispanic	0.179	–	–	–	0.248	–
Math Computation Test Below Grade Level							
Not a High School Graduate	White		-0.199	-0.139	-0.224	-0.196	-0.255
	Black		-0.799	-0.707	-0.658	-0.740	-0.632
	Hispanic		-0.612	-0.604	-0.410	-0.380	-0.372
High School Graduate	White		0.170	0.197	0.194	0.184	0.168
	Black		-0.409	-0.577	-0.491	-0.420	-0.414
	Hispanic		-0.035	-0.250	-0.195	-0.119	-0.185
College Graduate	White		0.595	0.588	0.751	0.509	0.532
	Black		-0.160	0.311	-0.031	-0.477	0.233
	Hispanic		–	0.079	0.410	0.241	–
Math Computation Test At Grade Level							
Not a High School Graduate	White	-0.158	-0.217	-0.081	-0.189	-0.251	-0.196
	Black	-0.391	-0.631	-0.545	-0.459	-0.621	-0.433
	Hispanic	-0.323	-0.370	-0.428	-0.366	-0.532	-0.334
High School Graduate	White	0.143	0.160	0.141	-0.164	0.207	0.110
	Black	-0.251	-0.436	-0.482	-0.228	-0.355	-0.357
	Hispanic	-0.081	-0.095	-0.220	-0.521	-0.166	-0.141
College Graduate	White	0.336	0.520	0.536	0.474	0.621	0.579
	Black	-0.242	-0.143	0.057	0.052	-0.546	0.373
	Hispanic	–	–	-0.534	-0.170	-0.153	–
Total Weight For Each Grade		2618.439	2332.834	2375.735	2245.257	2241.590	2604.529

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.
A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-6

Mean Achievement (Reading) by Poverty Status and Ethnicity, by Grade

Poverty Status	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
Poor	White	-0.497	-0.425	-0.331	-0.252	-0.261	-0.334
	Black	-0.896	-0.671	-0.107	-0.954	-0.945	-0.083
	Hispanic	-0.487	-0.947	-1.151	-0.914	-0.937	-0.933
Nonpoor	White	0.246	0.188	0.273	0.271	0.238	0.221
	Black	-0.503	-0.308	-0.679	-0.639	-0.660	-0.579
	Hispanic	-0.386	-0.426	-0.742	-0.626	-0.629	-0.802
Vocabulary Test At Grade Level							
Poor	White	-0.230	-0.445	-0.294	-0.268	-0.286	-0.335
	Black	-0.177	-0.817	-0.832	-0.784	-0.864	-0.803
	Hispanic	-0.364	-0.983	-0.820	-0.746	-0.824	-0.673
Nonpoor	White	0.109	0.239	0.261	0.239	0.241	0.183
	Black	-0.234	-0.508	-0.579	-0.467	-0.618	-0.410
	Hispanic	-0.293	-0.493	-0.618	-0.600	-0.533	-0.621
Reading Comprehension Test Below Grade Level							
Poor	White	-0.340	-0.357	-0.309	-0.192	-0.279	-0.227
	Black	-0.789	-0.743	-0.922	-0.839	-0.899	-0.978
	Hispanic	-0.611	-0.997	-0.948	-0.795	-0.799	-0.853
Nonpoor	White	0.214	0.223	0.268	0.233	0.233	0.195
	Black	-0.394	-0.478	-0.598	-0.475	-0.625	-0.522
	Hispanic	-0.478	-0.444	-0.671	-0.552	-0.490	-0.703
Reading Comprehension Test At Grade Level							
Poor	White	-0.159	-0.355	-0.322	-0.172	-0.277	-0.297
	Black	-0.021	-0.488	-0.710	-0.699	-0.817	-0.893
	Hispanic	-0.420	-0.686	-0.772	-0.773	-0.538	-0.642
Nonpoor	White	0.063	0.191	0.247	0.214	0.232	0.184
	Black	-0.104	-0.408	-0.514	-0.439	-0.590	-0.468
	Hispanic	-0.199	-0.384	-0.531	-0.566	-0.635	-0.575

Table B-6 (continued)

Mean Achievement (Math) by Poverty Status and Ethnicity, by Grade

Poverty Status	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
Poor	White	-0.438	-0.328	-0.230	-0.331	-0.225	-0.344
	Black	-0.744	-0.794	-0.832	-0.915	-1.003	-0.925
	Hispanic	-0.786	-0.749	-0.867	-0.899	-0.860	-0.665
Nonpoor	White	0.231	0.210	0.219	0.248	0.211	0.196
	Black	-0.543	-0.508	-0.440	-0.514	-0.604	-0.584
	Hispanic	-0.469	-0.406	-0.587	-0.628	-0.578	-0.661
Math Concepts Test At Grade Level							
Poor	White	-0.322	-0.302	-0.324	-0.168	-0.281	-0.337
	Black	-0.510	-0.622	-0.969	-0.784	-0.815	-0.787
	Hispanic	-0.455	-0.713	-1.021	-0.830	-0.743	-0.707
Nonpoor	White	0.164	0.186	0.275	0.217	0.233	0.182
	Black	-0.341	-0.470	-0.630	-0.495	-0.595	-0.454
	Hispanic	-0.378	-0.383	-0.645	-0.478	-0.598	-0.655
Math Computation Test Below Grade Level							
Poor	White		-0.267	-0.264	-0.289	-0.210	-0.278
	Black		-0.741	-0.786	-0.774	-0.845	-0.711
	Hispanic		-0.687	-0.704	-0.467	-0.309	-0.322
Nonpoor	White		0.181	0.212	0.187	0.160	0.129
	Black		-0.419	-0.465	-0.364	-0.394	-0.320
	Hispanic		-0.353	-0.359	-0.289	-0.304	-0.334
Math Computation Test At Grade Level							
Poor	White	-0.219	-0.198	-0.233	-0.171	-0.227	-0.360
	Black	-0.346	-0.627	-0.633	-0.507	-0.646	-0.499
	Hispanic	-0.318	-0.385	-0.446	-0.400	-0.431	-0.382
Nonpoor	White	0.120	0.150	0.175	0.134	0.172	0.118
	Black	-0.295	-0.394	-0.384	-0.191	-0.381	-0.263
	Hispanic	-0.242	-0.247	-0.342	-0.411	-0.478	-0.231
Total Weight for Each Grade		2640.422	2350.790	2393.064	2263.253	2260.22	2639.596

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-7

Proportion Included in Each Group by Maternal Education, Poverty and Ethnicity, by Grade

Education, Poverty and Ethnic Statuses	Grade					
	1	2	3	4	5	6
Mother's Education						
Not High School Graduate	0.282	0.277	0.295	0.312	0.301	0.294
High School Graduate	0.606	0.600	0.592	0.591	0.592	0.617
College Graduate	0.110	0.123	0.114	0.097	0.107	0.089
Poverty Status						
Poor	0.164	0.170	0.181	0.182	0.164	0.148
Non-Poor	0.836	0.830	0.819	0.818	0.836	0.852
Ethnic						
White	0.775	0.793	0.786	0.784	0.787	0.829
Black	0.151	0.138	0.143	0.145	0.154	0.112
Hispanic	0.074	0.069	0.071	0.071	0.060	0.059
Mother's Education/Poverty Status						
Not High School Graduate						
Poor	0.110	0.104	0.116	0.116	0.105	0.100
Non-Poor	0.204	0.191	0.204	0.222	0.227	0.220
High School Graduate						
Poor	0.051	0.059	0.057	0.061	0.053	0.045
Non-Poor	0.534	0.532	0.522	0.512	0.517	0.551
College Graduate						
Poor	0.002	0.006	0.005	0.003	0.003	0.002
Non-Poor	0.099	0.108	0.096	0.085	0.095	0.082
Mother's Education/Ethnicity						
Not High School Graduate						
White	0.189	0.185	0.193	0.207	0.208	0.221
Black	0.071	0.060	0.073	0.080	0.075	0.054
Hispanic	0.054	0.049	0.055	0.052	0.049	0.044
High School Graduate						
White	0.502	0.508	0.500	0.499	0.491	0.529
Black	0.066	0.065	0.063	0.057	0.068	0.051
Hispanic	0.018	0.018	0.016	0.017	0.011	0.016
College Graduate						
White	0.089	0.104	0.092	0.079	0.090	0.079
Black	0.010	0.005	0.006	0.008	0.007	0.004
Hispanic	0.001	0.001	0.003	0.002	0.001	0.002
Poverty Status/Ethnicity						
Poor						
White	0.076	0.079	0.085	0.084	0.076	0.078
Black	0.063	0.066	0.064	0.069	0.065	0.049
Hispanic	0.024	0.023	0.031	0.027	0.019	0.021
Non-Poor						
White	0.705	0.717	0.701	0.702	0.712	0.752
Black	0.082	0.069	0.078	0.076	0.085	0.061
Hispanic	0.050	0.045	0.042	0.043	0.042	0.039

Table B-8

Mean Achievement (Reading) by Number of Children and Poverty Status, by Grade

No. of Children	Poverty Status	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
1	Poor	-0.762	-0.863	-0.551	-0.418	-0.436	-0.541
	Nonpoor	0.076	0.074	0.066	0.215	0.009	0.112
2	Poor	-0.597	-0.572	-0.485	-0.389	-0.290	-0.373
	Nonpoor	0.244	0.161	0.157	0.162	0.183	0.186
3	Poor	-0.697	-0.444	-0.755	-0.688	-0.643	-0.737
	Nonpoor	0.019	0.099	0.121	0.104	0.087	0.041
4 or more	Poor	-0.787	-0.926	-1.020	-0.897	-0.757	-0.808
	Nonpoor	-0.103	-0.097	-0.063	-0.070	-0.124	-0.074
Vocabulary Test At Grade Level							
1	Poor	–	-0.809	-0.429	-0.182	-0.380	-0.361
	Nonpoor	0.079	0.112	0.057	0.204	0.022	0.095
2	Poor	-0.285	-0.648	-0.380	-0.446	-0.350	-0.273
	Nonpoor	0.115	0.203	0.174	0.139	0.192	0.177
3	Poor	-0.199	-0.620	-0.708	-0.658	-0.669	-0.630
	Nonpoor	-0.023	0.081	0.091	0.069	0.075	0.036
4 or more	Poor	-0.282	-0.979	-0.717	-0.712	-0.655	-0.680
	Nonpoor	-0.095	-0.067	-0.095	0.004	-0.116	-0.079
Reading Comprehension Test Below Grade Level							
1	Poor	-0.439	-0.588	-0.604	-0.375	-0.518	-0.227
	Nonpoor	0.077	0.046	0.030	0.153	-0.076	0.016
2	Poor	-0.411	-0.497	-0.569	-0.396	-0.199	-0.427
	Nonpoor	0.150	0.188	0.184	0.128	0.199	0.161
3	Poor	-0.714	-0.512	-0.661	-0.590	-0.694	-0.629
	Nonpoor	0.043	0.091	0.084	0.072	0.095	0.067
4 or more	Poor	-0.714	-0.917	-0.872	-0.748	-0.733	-0.665
	Nonpoor	-0.037	-0.096	0.001	0.039	-0.102	-0.059
Reading Comprehension Test At Grade Level							
1	Poor	-0.491	-0.561	-0.385	-0.478	-0.485	-0.495
	Nonpoor	0.103	0.079	0.009	0.167	-0.030	0.044
2	Poor	-0.156	-0.562	-0.347	-0.318	-0.351	-0.405
	Nonpoor	0.043	0.154	0.139	0.120	0.187	0.180
3	Poor	-0.165	-0.435	-0.607	-0.625	-0.556	-0.608
	Nonpoor	0.008	0.073	0.115	0.072	0.076	0.068
4 or more	Poor	-0.263	-0.617	-0.703	-0.573	-0.626	-0.636
	Nonpoor	-0.017	-0.057	-0.027	-0.013	-0.088	-0.102

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-8 (continued)

Mean Achievement (Math) by Number of Children and Poverty Status, by Grade

No. of Children	Poverty Status	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
1	Poor	-0.540	-0.622	-0.325	-0.534	-0.490	-0.667
	Nonpoor	-0.021	0.008	0.081	0.166	-0.022	-0.021
2	Poor	-0.692	-0.509	-0.304	-0.429	-0.305	-0.455
	Nonpoor	0.150	0.164	0.150	0.137	0.161	0.156
3	Poor	-0.696	-0.607	-0.595	-0.647	-0.713	-0.635
	Nonpoor	0.078	0.101	0.063	0.080	0.041	0.076
4 or more	Poor	-0.624	-0.735	-0.811	-0.889	-0.768	-0.718
	Nonpoor	0.013	-0.052	-0.021	0.045	0.029	0.018
Math Concepts Test At Grade Level							
1	Poor	-0.375	-0.526	-0.582	-0.217	-1.107	-0.554
	Nonpoor	-0.037	0.038	0.013	0.021	-0.056	0.001
2	Poor	-0.480	-0.522	-0.541	-0.408	-0.255	-0.406
	Nonpoor	0.096	0.110	0.197	0.070	0.167	0.145
3	Poor	-0.456	-0.419	-0.705	-0.486	-0.590	-0.629
	Nonpoor	0.048	0.076	0.097	0.110	0.075	0.053
4 or more	Poor	-0.303	-0.618	-0.905	-0.650	-0.737	-0.590
	Nonpoor	0.053	0.007	-0.063	0.134	0.016	0.046
Math Computation Test Below Grade Level							
1	Poor		-0.552	-0.131	-0.452	-0.532	-0.328
	Nonpoor		-0.025	0.111	-0.016	-0.150	-0.064
2	Poor		-0.463	-0.455	-0.311	-0.108	-0.337
	Nonpoor		0.147	0.163	0.110	0.118	0.104
3	Poor		-0.484	-0 520	-0.489	-0.602	-0.539
	Nonpoor		0.113	0.010	0.073	0.077	0.098
4 or more	Poor		-0.821	-0.820	-0.764	-0.574	-0.589
	Nonpoor		-0.047	0.044	0.171	0.032	0.027
Math Computation Test At Grade Level							
1	Poor	-0.200	-0.712	-0.166	-0.115	-0.468	-0.581
	Nonpoor	0.004	-0.005	0.041	-0.022	-0.115	-0.052
2	Poor	-0.297	-0.337	-0.421	-0.187	-0.208	-0.367
	Nonpoor	0.085	0.093	0.147	0.104	0.139	0.109
3	Poor	-0.228	-0.329	-0.485	-0.487	-0.430	-0.564
	Nonpoor	0.002	0.103	0.047	0.013	0.082	0.085
4 or more	Poor	-0.348	-0.606	-0.614	-0.413	-0.573	-0.435
	Nonpoor	0.019	-0.020	-0.035	0.129	-0.011	0.043
Total Weight for Each Grade		2354.525	2033.327	2037.918	1876.154	1890.712	2209.761

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-9

Mean Achievement (Reading) by Number of Adults and Poverty Status, by Grade

Number of Adults	Poverty Status	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
1	Poor	-0.737	-0.762	-0.886	-0.761	-0.758	-0.657
	Nonpoor	-0.124	-0.161	-0.139	-0.020	-0.242	-0.145
2	Poor	-0.632	-0.567	-0.657	-0.587	-0.383	-0.697
	Nonpoor	0.122	0.120	0.144	0.131	0.109	0.128
3 or more	Poor	-0.878	-0.949	-0.834	-0.944	-0.482	-0.385
	Nonpoor	0.128	0.016	-0.018	0.118	0.128	-0.024
Vocabulary Test At Grade Level							
1	Poor	-0.271	-0.831	-0.667	-0.634	-0.682	-0.554
	Nonpoor	-0.115	-0.134	-0.033	-0.141	-0.253	-0.057
2	Poor	-0.256	-0.696	-0.600	-0.566	-0.393	-0.578
	Nonpoor	0.057	0.137	0.127	0.146	0.114	0.097
3 or more	Poor	-0.238	-0.745	-0.420	–	-0.690	-0.229
	Nonpoor	0.041	0.079	-0.060	0.009	0.130	0.022
Reading Comprehension Test Below Grade Level							
1	Poor	-0.597	-0.836	-0.804	-0. 613	-0.750	-0.552
	Nonpoor	-0.091	-0.203	-0.060	-0.075	-0.247	-0.148
2	Poor	-0.604	-0.451	-0.624	-0.556	-0.352	-0.581
	Nonpoor	0.096	0.131	0.138	0.124	0.112	0.119
3 or more	Poor	-0.714	-0.918	-0.628	-0.862	-0.708	-0.473
	Nonpoor	0.175	0.010	0.005	0.079	0.117	-0.061
Reading Comprehension Test At Grade Level							
1	Poor	-0.220	-0.532	-0.594	-0.569	-0.651	-0.626
	Nonpoor	-0.002	-0.171	-0.082	-0.082	-0.253	-0.116
2	Poor	-0.219	-0.536	-0.591	-0.440	-0.329	-0.520
	Nonpoor	0.041	0.115	0.127	0.116	0.117	0.111
3 or more	Poor	-0.243	-0.631	-0.364	-0.960	-0.797	-0.399
	Nonpoor	-0.030	0.060	-0.049	0.051	0.072	-0.010

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-9 (continued)

Mean Achievement (Math) by Number of Adults and Poverty Status, by Grade

Number of Adults	Poverty Status	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
1	Poor	-0.615	-0.740	-0.615	-0.810	-0.738	-0.665
	Nonpoor	-0.151	-0.031	-0.093	-0.004	-0.208	-0.009
	Poor	-0.653	-0.458	-0.570	-0.561	-0.421	-0.585
	Nonpoor	0.117	0.111	0.119	0.123	0.105	0.105
3 or more	Poor	-1.215	-1.021	-0.706	-0.702	-0.903	-0.554
	Nonpoor	0.060	-0.028	0.012	0.100	0.102	0.008
Math Concepts Test At Grade Level							
1	Poor	-0.398	-0.558	-0.759	-0.532	-0.700	-0.629
	Nonpoor	-0.108	-0.110	-0.121	-0.049	-0.209	-0.098
2	Poor	-0.416	-0.432	-0.738	-0.475	-0.465	-0.524
	Nonpoor	0.072	0.093	0.140	0.121	0.104	0.111
3 or more	Poor	-0.439	-0.771	-0.600	-0.772	-0.714	-0.396
	Nonpoor	0.107	0.084	0.032	-0.048	0.178	-0.008
Math Computation Test Below Test Level							
1	Poor		-0.758	-0.713	-0.652	-0.586	-0.534
	Nonpoor		-0.010	-0.174	-0.018	-0.149	-0.135
2	Poor		-0.414	-0.452	-0.488	-0.270	-0.449
	Nonpoor		0.092	0.121	0.097	0.065	0.092
3 or more	Poor		-0.639	-0.330	-0.380	-0.566	-0.475
	Nonpoor		0.113	0.057	0.144	0.161	0.031
Math Computation Test At Test Level							
1	Poor	-0.273	-0.628	-0.550	-0.401	-0.493	-0.533
	Nonpoor	0.000	-0.033	-0.194	-0.064	-0.132	-0.110
2	Poor	-0.279	-0.252	-0.418	-0.383	-0.410	-0.440
	Nonpoor	0.046	0.068	0.103	0.079	0.073	0.106
3 or more	Poor	-0.393	-0.537	-0.486	-0.128	-0.095	-0.467
	Nonpoor	0.047	0.193	0.105	0.049	0.143	-0.052
Total Weight for Each Grade		2354.525	2033.329	2037.920	1876.155	1890.713	2209.763

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-10

Mean Achievement (Reading) by Quadrant and Poverty Status, by Grade

Quadrant	Poverty Status	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
Nonfarm, Male Head	Poor	-0.578	-0.731	-0.689	-0.639	-0.461	-0.716
	Nonpoor	0.132	0.104	0.135	0.144	0.107	0.097
Nonfarm, Female Head	Poor	-0.756	-0.674	-0.899	-0.775	-0.710	-0.679
	Nonpoor	-0.156	-0.057	-0.192	-0.100	-0.282	-0.101
Farm, Male Head	Poor	-1.097	-0.309	0.062	0.237	0.334	0.087
	Nonpoor	-0.018	0.106	0.106	0.051	0.313	0.205
Vocabulary Test At Grade Level							
Nonfarm, Male Head	Poor	-0.207	-0.764	-0.584	-0.582	-0.446	-0.613
	Nonpoor	0.070	0.134	0.119	0.137	0.113	0.084
Nonfarm, Female Head	Poor	-0.290	-0.804	-0.699	-0.654	-0.675	-0.515
	Nonpoor	-0.200	-0.097	-0.102	-0.147	-0.268	-0.051
Farm, Male Head	Poor	–	-0.107	0.250	-0.177	0.569	-0.143
	Nonpoor	-0.037	0.082	0.103	0.071	0.256	0.130
Reading Comprehension Test Below Grade Level							
Nonfarm, Male Head	Poor	-0.581	-0.575	-0.662	-0.561	-0.430	-0.641
	Nonpoor	0.090	0.119	0.137	0.125	0.111	0.077
Nonfarm, Female Head	Poor	-0.623	-0.745	-0.807	-0.660	-0.718	-0.596
	Nonpoor	-0.090	-0.174	-0.103	-0.140	-0.285	-0.087
Farm, Male Head	Poor	-0.504	-0.272	0.180	0.154	0.554	0.586
	Nonpoor	0.289	0.194	-0.013	0.177	0.275	0.284
Reading Comprehension Test At Grade Level							
Nonfarm, Male Head	Poor	-0.250	-0.577	-0.557	-0.420	-0.395	-0.610
	Nonpoor	0.036	0.106	0.118	0.107	0.106	0.088
Nonfarm, Female Head	Poor	-0.201	-0.538	-0.627	-0.632	-0.640	-0.610
	Nonpoor	-0.024	-0.066	-0.112	-0.113	-0.269	-0.073
Farm, Male Head	Poor	-0.341	-0.002	0.046	0.005	0.462	0.527
	Nonpoor	0.068	0.031	0.061	0.240	0.286	0.139

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-10 (continued)

Mean Achievement (Math) by Quadrant and Poverty Status, by Grade

Quadrant	Poverty Status	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
Nonfarm, Male Head	Poor	-0.646	-0.537	-0.611	-0.593	-0.527	-0.648
	Nonpoor	0.111	0.094	0.109	0.127	0.094	0.078
Nonfarm, Female Head	Poor	-0.654	-0.728	-0.626	-0.786	-0.718	-0.665
	Nonpoor	-0.196	0.043	-0.195	-0.079	-0.274	0.037
Farm, Male Head	Poor	-1.006	0.127	0.202	-0.113	–	0.158
	Nonpoor	0.217	0.140	0.315	0.187	0.472	0.229
Math Concepts Test At Grade Level							
Nonfarm, Male Head	Poor	-0.367	-0.552	-0.758	-0.502	-0.558	-0.536
	Nonpoor	0.067	0.084	0.140	0.102	0.109	0.088
Nonfarm, Female Head	Poor	-0.399	-0.527	-0.785	-0.565	-0.667	-0.638
	Nonpoor	-0.073	-0.040	-0.187	-0.086	-0.244	-0.082
Farm, Male Head	Poor	-1.398	-0.010	0.344	0.086	–	0.043
	Nonpoor	0.145	0.126	0.117	0.208	0.323	0.195
Math Computation Test Below Grade Level							
Nonfarm, Male Head	Poor		-0.513	-0.429	-0.512	-0.368	-0.560
	Nonpoor		0.086	0.117	0.106	0.078	0.082
Nonfarm, Female Head	Poor		-0.692	-0.733	-0.616	-0.553	-0.497
	Nonpoor		-0.020	-0.213	-0.055	-0.227	-0.102
Farm, Male Head	Poor		-0.033	0.122	-0.120	–	0.220
	Nonpoor		0.248	0.223	0.127	0.237	0.077
Math Computation Test At Grade Level							
Nonfarm, Male Head	Poor	-0.249	-0.347	-0.434	-0.402	-0.461	-0.524
	Nonpoor	0.038	0.070	0.096	0.072	0.084	0.090
Nonfarm, Female Head	Poor	-0.293	-0.565	-0.564	-0.378	-0.463	-0.495
	Nonpoor	-0.023	-0.004	-0.229	-0.082	-0.190	-0.109
Farm, Male Head	Poor	–	0.152	0.023	0.046	0.620	0.029
	Nonpoor	0.226	0.137	0.395	0.208	0.215	-0.003
Total Weight For Each Grade		2354.524	2033.328	2037.919	1876.156	1890.713	2209.762

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.
A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-11

Number of Children, Poverty Status and Quadrant, by Grade

No. of Children	Poverty Status	Grade					
		1	2	3	4	5	6
Proportion on Each Group, by Grade							
1	Poor	0.011	0.012	0.012	0.009	0.008	0.009
	Nonpoor	0.113	0.097	0.110	0.107	0.120	0.124
2	Poor	0.034	0.023	0.024	0.027	0.027	0.028
	Nonpoor	0.391	0.365	0.358	0.344	0.327	0.318
3	Poor	0.041	0.047	0.045	0.046	0.034	0.047
	Nonpoor	0.262	0.270	0.291	0.282	0.289	0.291
4 or more	Poor	0.037	0.045	0.051	0.057	0.051	0.032
	Nonpoor	0.110	0.141	0.110	0.128	0.145	0.150
Number of Adults	**Poverty Status**						
Proportion in Each Group, by Grade							
1	Poor	0.070	0.066	0.075	0.072	0.069	0.053
	Nonpoor	0.075	0.073	0.075	0.085	0.087	0.073
2	Poor	0.048	0.054	0.051	0.059	0.046	0.055
	Nonpoor	0.742	0.747	0.719	0.689	0.684	0.692
3 or more	Poor	0.006	0.006	0.006	0.009	0.005	0.008
	Nonpoor	0.060	0.054	0.074	0.086	0.110	0.119
Quadrant	**Poverty Status**						
Proportion in Each Group by Grade							
Nonfarm, Male Head	Poor	0.044	0.041	0.049	0.051	0.041	0.050
	Nonpoor	0.760	0.754	0.746	0.730	0.725	0.756
Nonfarm, Female Head	Poor	0.077	0.080	0.078	0.085	0.076	0.061
	Nonpoor	0.074	0.078	0.084	0.091	0.100	0.081
Farm, Male Head	Poor	0.003	0.005	0.004	0.004	0.002	0.006
	Nonpoor	0.042	0.042	0.039	0.040	0.057	0.047

Table B-12

Mean Achievement by Daily Hours Television Viewing, by Grade

Hours TV	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
Less than 1	-0.147	-0.023	0.038	0.081	-0.013	0.041
From 1 to <2	0.042	0.042	0.074	0.182	0.135	0.150
From 2 to <3	0.077	0.069	0.052	0.009	0.045	0.077
From 3 to <4	-0.004	-0.046	-0.045	-0.112	-0.127	-0.118
4 or more	-0.265	-0.189	-0.222	-0.109	-0.067	-0.207
Vocabulary Test At Grade Level						
Less than 1	-0.179	-0.090	0.135	0.096	-0.013	0.057
From 1 to <2	0.044	0.053	0.092	0.168	0.168	0.126
From 2 to <3	0.027	0.067	0.025	0.020	0.050	0.072
From 3 to <4	0.014	-0.032	-0.047	-0.101	-0.154	-0.138
4 or more	-0.103	-0.187	-0.191	-0.131	-0.075	-0.124
Reading Comprehension Test Below Grade Level						
Less than 1	-0.103	-0.058	0.003	0.091	0.003	0.178
From 1 to <2	0.027	0.012	0.064	0.210	0.130	0.140
From 2 to <3	0.080	0.096	0.074	-0.010	0.033	0.062
From 3 to <4	-0.006	-0.023	-0.031	-0.099	-0.077	-0.114
4 or more	-0.255	-0.237	-0.258	-0.114	-0.118	-0.208
Reading Comprehension Test At Grade Level						
Less than 1	-0.078	-0.081	0.224	0.129	0.103	0.192
From 1 to <2	-0.005	0.031	0.061	0.176	0.194	0.152
From 2 to <3	0.015	0.064	0.036	0.020	0.016	0.061
From 3 to <4	0.024	-0.019	-0.029	-0.134	-0.133	-0.150
4 or more	-0.043	-0.157	-0.232	-0.103	-0.099	-0.150
Math Concepts Test Below Grade Level						
Less than 1	-0.275	-0.003	0.132	-0.085	-0.113	0.177
From 1 to <2	0.003	-0.001	0.035	0.208	0.137	0.112
From 2 to <3	0.105	0.085	0.052	0.025	0.008	0.062
From 3 to <4	-0.004	-0.041	-0.030	-0.103	-0.097	-0.127
4 or more	-0.201	-0.172	-0.209	-0.148	-0.005	-0.151
Math Concepts Test At Grade Level						
Less than 1	-0.085	0.016	0.110	0.106	-0.051	0.106
From 1 to <2	-0.014	-0.022	0.085	0.117	0.158	0.133
From 2 to <3	0.077	0.056	0.025	0.031	0.019	0.080
From 3 to <4	-0.040	-0.014	-0.042	-0.139	-0.090	-0.109
4 or more	-0.097	-0.104	-0.178	-0.042	-0.078	-0.236
Math Computation Test Below Grade Level						
Less than 1		-0.032	0.117	0.133	-0.090	0.134
From 1 to <2		0.028	0.026	0.114	0.064	0.110
From 2 to <3		0.044	0.029	0.006	-0.028	0.056
From 3 to <4		-0.008	-0.013	-0.072	-0.003	-0.113
4 or more		-0.151	-0.161	-0.096	0.022	-0.138
Math Computation Test At Grade Level						
Less than 1	-0.102	0.002	0.101	-0.024	-0.191	0.154
From 1 to <2	-0.023	0.020	0.046	0.078	0.124	0.116
From 2 to <3	0.010	0.030	0.026	-0.001	0.001	0.029
From 3 to <4	0.083	-0.023	-0.060	-0.060	-0.017	-0.054
4 or more	-0.099	-0.083	-0.073	–	-0.059	-0.193
Total Weight for Each Grade	2506.927	2231.558	2263.687	2089.366	2120.296	2547.395

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.
A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-13

Mean Achievement (Vocabulary) by Daily Hours Television Viewing and Ethnic Group, by Grade

Hours TV	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
Less than 1	White	0.031	0.268	0.250	0.375	0.239	0.267
	Black	-0.737	-0.643	-1.164	-0.397	-0.643	-0.737
	Hispanic	-0.021	-0.996	–	-1.307	-0.910	-1.137
From 1 to <2	White	0.231	0.138	0.223	0.353	0.299	0.306
	Black	-0.706	-0.240	-0.861	-0.785	-0.914	-0.740
	Hispanic	-0.434	-0.436	-0.665	-0.524	-0.700	-0.951
From 2 to <3	White	0.262	0.199	0.239	0.221	0.210	0.190
	Black	-0.656	-0.516	-0.900	-0.854	-0.772	-0.721
	Hispanic	-0.406	-0.499	-0.960	-0.979	-0.513	-0.773
From 3 to <4	White	0.186	0.060	0.233	0.086	0.067	0.059
	Black	-0.648	-0.640	-0.891	-0.751	-0.846	-0.855
	Hispanic	-0.530	-0.501	-0.750	-0.628	-0.777	-0.717
4 or more	White	-0.154	-0.085	0.053	0.095	0.176	0.011
	Black	-0.616	-0.245	-0.883	-0.730	-0.746	-0.907
	Hispanic	-0.613	-0.864	-1.202	-0.535	-0.722	-0.900
Vocabulary Test At Grade Level							
Less than 1	White	-0.068	0.202	0.331	0.327	0.256	0.248
	Black	-0.528	-0.791	-0.720	-0.491	-0.795	-0.559
	Hispanic	-0.248	-1.048	–	–	-0.703	-0.989
From 1 to <2	White	0.113	0.196	0.243	0.351	0.324	0.256
	Black	-0.191	-0.542	-0.649	-0.710	-0.767	-0.508
	Hispanic	-0.237	-0.542	-0.447	-0.655	-0.622	-0.611
From 2 to <3	White	0.138	0.225	0.191	0.186	0.220	0.168
	Black	-0.315	-0.607	-0.715	-0.596	-0.700	-0.582
	Hispanic	-0.323	-0.605	-0.821	-0.851	-0.501	-0.659
From 3 to <4	White	0.056	-0.132	0.239	0.059	0.030	-0.007
	Black	-0.007	-0.753	-0.806	-0.567	-0.841	-0.698
	Hispanic	-0.537	-0.597	-0.643	-0.614	-0.600	-0.533
4 or more	White	-0.043	-0.022	0.032	0.047	0.156	0.034
	Black	-0.243	-0.521	-0.669	-0.635	-0.609	-0.549
	Hispanic	-0.390	-0.737	-0.928	-0.567	-0.627	-0.582

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-13 (continued)

Mean Achievement (Reading Comprehension) by Television Viewing and Ethnic Group, by Grade

Hours TV	Ethnicity	Grade					
		1	2	3	4	5	6
Reading Comprehension Tests Below Grade Level							
Less than 1	White	-0.024	0.211	0.263	0.361	0.290	0.417
	Black	-0.403	-0.686	-0.917	-0.470	-0.765	-0.608
	Hispanic	-0.264	-0.786	–	-0.942	-0.761	-1.180
From 1 to < 2	White	0.199	0.165	0.240	0.388	0.276	0.285
	Black	-0.694	-0.503	-0.742	-0.676	-0.705	-0.708
	Hispanic	-0.458	-0.486	-0.574	-0.597	-0.736	-0.797
From 2 to < 3	White	0.218	0.251	0.279	0.177	0.193	0.176
	Black	-0.518	-0.548	-0.828	-0.702	-0.737	-0.724
	Hispanic	-0.460	-0.578	-0.928	-0.886	-0.427	-0.639
From 3 to < 4	White	0.168	0.154	0.211	0.057	0.105	0.031
	Black	-0.606	-0.749	-0.767	-0.612	-0.750	-0.767
	Hispanic	-0.472	-0.573	-0.575	-0.537	-0.583	-0.560
4 or more	White	-0.103	-0.119	-0.037	0.056	0.116	-0.009
	Black	-0.493	-0.370	-0.745	-0.636	-0.816	-0.856
	Hispanic	-0.859	-0.913	-1.086	-0.431	-0.596	-0.791
Reading Comprehension Tests At Grade Level							
Less than 1	White	-0.076	0.142	0.417	0.339	0.319	0.435
	Black	-0.071	-0.462	-0.665	-0.254	-0.500	-0.780
	Hispanic	-0.227	-0.941	–	–	-0.647	-0.970
From 1 to < 2	White	0.028	0.147	0.207	0.325	0.368	0.294
	Black	-0.082	-0.327	-0.592	-0.598	-0.791	-0.698
	Hispanic	-0.366	-0.517	-0.485	-0.353	-0.676	-0.585
From 2 to < 3	White	0.077	0.205	0.199	0.184	0.172	0.161
	Black	-0.088	-0.450	-0.665	-0.620	-0.706	-0.643
	Hispanic	-0.262	-0.517	-0.720	-0.708	-0.419	-0.541
From 3 to < 4	White	0.032	0.107	0.198	0.009	0.047	-0.027
	Black	0.133	-0.549	-0.608	-0.495	-0.769	-0.670
	Hispanic	-0.190	-0.377	-0.507	-0.710	-0.609	-0.640
4 or more	White	0.011	-0.054	-0.029	0.071	0.144	0.036
	Black	-0.269	-0.336	-0.684	-0.496	-0.644	-0.704
	Hispanic	–	-0.504	-0.793	-0.629	-0.676	-0.625

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-13 (continued)

Mean Achievement (Math Concepts) by Daily Hours Television Viewing and Ethnic Group, by Grade

Hours TV	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
Less than 1	White	-0.121	0.279	0.322	0.136	0.122	0.360
	Black	-0.918	-0.858	-0.615	-0.326	-0.799	-0.592
	Hispanic	-0.176	-0.457	–	-1.256	-1.058	-0.839
From 1 to <2	White	0.162	0.121	0.169	0.358	0.276	0.264
	Black	-0.675	-0.498	-0.640	-0.695	-0.805	-0.815
	Hispanic	-0.452	-0.454	-0.422	-0.471	-0.674	-0.602
From 2 to <3	White	0.286	0.244	0.179	0.207	0.162	0.161
	Black	-0.584	-0.666	-0.551	-0.723	-0.782	-0.691
	Hispanic	-0.547	-0.476	-0.678	-0.946	-0.544	-0.604
From 3 to <4	White	0.158	0.089	0.225	0.072	0.077	0.029
	Black	-0.552	-0.737	-0.839	-0.742	-0.852	-0.862
	Hispanic	-0.605	-0.257	-0.576	-0.528	-0.647	-0.551
4 or more	White	-0.054	0.011	0.003	0.071	0.227	0.034
	Black	-0.560	-0.572	-0.613	-0.776	-0.722	-0.626
	Hispanic	-0.858	-0.780	-1.007	-0.657	-0.615	-0.790
Math Concepts Test At Grade Level							
Less than 1	White	0.085	-0.295	0.337	0.317	0.196	0.312
	Black	–	-0.848	-0.749	-0.115	-0.527	-0.430
	Hispanic	-0.645	–	-1.505	–	–	-1.306
From 1 to <2	White	0.071	0.100	0.254	0.246	0.324	0.276
	Black	-0.359	-0.459	-0.834	-0.668	-0.771	–
	Hispanic	-0.284	-0.632	-0.439	-0.300	-0.870	-0.619
From 2 to <3	White	0.200	0.179	0.211	0.196	0.200	0.158
	Black	-0.335	-0.561	-0.874	-0.617	-0.766	-0.467
	Hispanic	-0.412	-0.308	-0.998	-0.745	-0.608	-0.577
From 3 to <4	White	0.052	0.142	0.223	0.027	0.052	0.022
	Black	-0.416	-0.721	-0.814	-0.675	-0.667	-0.653
	Hispanic	–	-0.418	-0.647	-0.650	-0.342	-0.581
4 or more	White	0.051	0.001	0.068	0.172	0.170	-0.084
	Black	-0.556	-0.262	-0.691	-0.607	-0.616	-0.719
	Hispanic	–	-0.730	-1.126	-0.578	-0.691	-0.556

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-13 (continued)

Mean Achievement (Math Computation) by Daily Hours Television Viewing and Ethnic Group, by Grade

Hours TV	Ethnicity	Grade					
		1	2	3	4	5	6
Math Computation Test Below Grade Level							
Less than 1	White		0.185	0.284	0.314	0.042	0.263
	Black		-0.830	-0.557	-0.326	-0.778	-0.251
	Hispanic		-0.671	–	-0.373	-0.566	-0.707
From 1 to < 2	White		0.121	0.141	0.227	0.190	0.215
	Black		-0.391	-0.653	-0.547	-0.688	-0.544
	Hispanic		-0.222	-0.144	-0.329	0.346	-0.406
From 2 to < 3	White		0.180	0.154	0.136	0.098	0.105
	Black		-0.480	-0.695	-0.597	-0.704	-0.510
	Hispanic		-0.552	-0.505	-0.451	-0.323	-0.044
From 3 to < 4	White		0.134	0.218	0.030	0.109	-0.013
	Black		-0.691	-0.659	-0.460	-0.554	-0.484
	Hispanic		0.328	-0.456	-0.268	-0.142	-0.536
4 or more	White		-0.029	0.054	0.046	0.193	-0.027
	Black		-0.537	-0.626	-0.651	-0.378	-0.541
	Hispanic		-0.414	-0.803	-0.321	-0.328	-0.357
Math Computation Tests At Grade Level							
Less than 1	White	-0.003	0.141	0.256	0.128	-0.037	0.293
	Black	-0.450	-0.464	-0.422	-0.503	-0.385	-0.097
	Hispanic	-0.326	-0.237	–	-0.471	-0.865	-0.893
From 1 to < 2	White	0.039	0.103	0.145	0.147	0.248	0.211
	Black	-0.327	-0.380	-0.558	-0.202	-0.504	-0.489
	Hispanic	-0.237	-0.127	-0.031	-0.550	-0.582	-0.280
From 2 to < 3	White	0.088	0.102	0.139	0.100	0.126	0.064
	Black	-0.278	-0.476	-0.596	-0.375	-0.591	-0.330
	Hispanic	-0.204	-0.340	-0.446	-0.455	-0.306	-0.068
From 3 to < 4	White	0.175	0.109	0.108	0.042	0.115	0.014
	Black	-0.106	-0.632	-0.556	-0.374	-0.523	-0.329
	Hispanic	-0.328	-0.322	-0.344	-0.417	-0.367	-0.312
4 or more	White	0.035	0.032	0.072	0.110	0.100	-0.091
	Black	-0.620	-0.347	-0.341	-0.333	-0.374	-0.522
	Hispanic	-0.216	-0.457	-0.524	-0.272	-0.531	-0.417
Total Weight for Each Grade		2435.57	2187.05	2213.88	2040.25	2069.16	2485.89

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.
A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-14

Mean Achievement by Daily Hours Homework, by Grade

Hours Homework	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
None	0.179	0.264	0.339	0.244	0.002	-0.131
Less than 1	0.087	0.062	0.121	0.172	0.171	0.158
From 1 to < 2	-0.221	-0.192	-0.226	-0.117	-0.053	0.017
From 2 to < 3	-0.338	-0.433	-0.420	-0.343	-0.220	-0.196
3 or more	-0.643	-0.421	-0.195	-0.493	-0.203	-0.398
Vocabulary Test At Grade Level						
None	0.157	0.303	0.280	0.170	0.049	-0.053
Less than 1	0.008	0.103	0.104	0.183	0.167	0.158
From 1 to < 2	-0.136	-0.247	-0.187	-0.118	-0.050	0.015
From 2 to < 3	-0.126	-0.535	-0.434	-0.262	-0.239	-0.239
3 or more	-0.332	-0.483	-0.396	-0.553	-0.341	-0.352
Reading Comprehension Test Below Grade level						
None	0.197	0.354	0.284	0.177	-0.001	-0.153
Less than 1	0.016	0.098	0.094	0.174	0.136	0.120
From 1 to < 2	-0.147	-0.263	-0.197	-0.133	-0.035	-0.031
From 2 to < 3	-0.316	-0.424	-.386	-0.201	-0.177	-0.174
or more	-0.955	-0.442	-0.428	-0.442	-0.257	-0.304
Reading Comprehension Test At Grade Level						
None	0.109	0.280	0.256	0.219	0.008	-0.176
Less than 1	-0.038	0.086	0.094	0.154	0.124	0.123
From 1 to < 2	-0.054	-0.213	-0.185	-0.135	-0.016	0.031
from 2 to < 3	0.049	-0.384	-0.337	-0.184	-0.230	-0.159
3 or more	-0.265	-0.319	-0.282	-0.472	-0.273	-0.311
Math Concepts Test Below Grade Level						
None	0.253	0.223	0.271	0.126	-0.026	-0.185
less than 1	0.033	0.099	0.101	0.171	0.137	0.173
From 1 to < 2	-0.231	-0.204	-0.171	-0.107	0.028	0.000
From 2 to < 3	-0.418	-0.474	-0.429	-0.262	-0.213	-0.148
3 or more	-0.512	-0.521	-0.426	-0.273	-0.179	-0.332
Math Concepts Test At Grade level						
None	0.161	0.260	0.255	0.144	-0.022	-0.180
Less than 1	0.009	0.113	0.120	0.155	0.112	0.158
From 1 to < 2	-0.144	-0.263	-0.213	-0.095	-0.017	-0.000
From 2 to < 3	-0.200	-0.467	-0.393	-0.257	-0.200	-0.121
3 or more	-0.276	-0.071	-0.344	-0.423	-0.147	-0.310

Table B-14 (continued)

Mean Achievement by Daily Hours Homework, by Grade

Hours Homework	Grade					
	1	2	3	4	5	6
Math Computation Test Below Grade Level						
None		0.283	0.212	0.100	-0.235	-0.251
Less than 1		0.080	0.074	0.169	0.135	0.069
From 1 to < 2		-0.230	-0.162	-0.114	0.018	0.028
From 2 to < 3		-0.477	-0.224	-0.203	-0.219	-0.046
3 or more		-0.344	-0.275	-0.173	-0.081	-0.134
Math Computation Test At Grade Level						
None	0.176	0.255	0.116	0.104	-0.180	-0.166
Less than 1	-0.030	0.063	0.112	0.111	0.077	0.084
From 1 to < 2	-0.103	-0.180	0.138	-0.111	0.031	0.013
From 2 to < 3	-0.155	-0.507	-0.268	-0.057	-0.157	-0.074
3 or more	-0.347	-0.141	-0.302	-0.170	-0.085	-0.121
Total Weight for Each Grade	2506.927	2231.559	2263.688	2089.368	2120.298	2547.398

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-15

Mean Achievement (Vocabulary) by Daily Hours Homework and Ethnic Group, by Grade

Hours Homework	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
None	White	0.258	0.343	0.405	0.360	0.145	0.036
	Black	-0.592	-0.351	-1.161	-1.018	-1.141	-1.101
	Hispanic	-0.539	-0.429	-0.461	-0.458	-0.610	-1.075
Less than 1	White	0.233	0.125	0.250	0.315	0.291	0.264
	Black	-0.546	-0.408	-0.898	-0.832	-0.690	-0.895
	Hispanic	-0.386	-0.414	-1.151	-0.829	-0.813	-0.858
From 1 to < 2	White	0.017	-0.034	0.067	0.087	0.155	0.170
	Black	-0.708	-0.486	-0.900	-0.747	-0.891	-0.743
	Hispanic	-0.391	-0.777	-0.909	-0.698	-0.713	-0.768
From 2 to < 3	White	0.209	-0.369	-0.168	0.017	0.079	0.014
	Black	-0.729	-0.498	-0.746	-0.770	-0.741	-0.821
	Hispanic	-0.771	-0.463	-0.594	-0.641	-0.390	-0.910
3 or more	White	-0.351	-0.413	0.118	-0.181	-0.113	-0.132
	Black	-1.092	-0.109	-1.126	-0.671	-0.245	-0.732
	Hispanic	-0.173	–	-0.452	-1.768	-0.759	-1.021
Vocabulary Test At Grade Level							
None	White	0.221	0.388	0.364	0.271	0.181	-0.071
	Black	-0.246	-0.578	-0.840	-0.890	-0.787	-0.634
	Hispanic	-0.452	-0.292	-0.245	-0.316	-0.584	-0.803
Less than 1	White	0.054	0.221	0.259	0.315	0.309	0.257
	Black	-0.124	-0.624	-0.691	-0.639	-0.704	-0.674
	Hispanic	-0.244	-0.609	-0.788	-0.715	-0.752	-0.668
From 1 to < 2	White	-0.060	-0.075	0.049	0.057	0.141	0.136
	Black	-0.248	-0.609	-0.732	-0.599	-0.779	-0.579
	Hispanic	-0.384	-0.819	-0.736	-0.690	-0.595	-0.580
From 2 to < 3	White	0.145	-0.310	-0.139	0.001	0.045	-0.111
	Black	-0.258	-0.687	-0.746	-0.524	-0.743	-0.669
	Hispanic	-0.619	-0.649	-0.866	-0.756	-0.325	-0.565
3 or more	White	–	-0.256	-0.206	-0.421	-0.353	-0.252
	Black	-0.641	-0.657	-0.591	-0.666	-0.395	-0.452
	Hispanic	–	–	-0.405	–	-0.375	-0.828

NOTE: (–) indicates insufficient sample size to estimate mean achievement.

Table B-15 (continued)

Mean Achievement (Reading Comprehension) by Daily Hours, Homework and Ethnic Group, by Grade

Hours Homework	Ethnicity	Grade					
		1	2	3	4	5	6
Reading Comprehension Test Below Grade Level							
None	White	0.262	0.457	0.336	0.290	0.135	-0.003
	Black	-0.472	-0.367	-0.869	-0.828	-1.025	-0.957
	Hispanic	-0.349	-0.249	-0.194	-0.613	-0.506	-0.915
Less than 1	White	0.127	0.215	0.265	0.299	0.269	0.215
	Black	-0.404	-0.664	-0.717	-0.698	-0.697	-0.765
	Hispanic	-0.489	-0.580	-1.037	-0.721	-0.745	-0.692
From 1 to < 2	White	0.072	-0.095	0.084	0.043	0.160	0.176
	Black	-0.583	-0.632	-0.830	-0.674	-0.826	-0.708
	Hispanic	-0.503	-0.762	-0.745	-0.586	-0.595	-0.696
From 2 to < 3	White	0.315	-0.267	-0.172	0.169	0.099	0.019
	Black	-0.692	-0.526	-0.643	-0.562	-0.674	-0.772
	Hispanic	-0.829	-0.651	-0.405	-0.731	-0.326	-0.725
3 or more	White	-0.402	-0.634	-0.062	-0.206	-0.241	-0.008
	Black	-1.551	-0.206	-1.062	-0.582	-0.295	-0.737
	Hispanic	–	–	-0.623	-0.930	-0.361	-0.706
Reading Comprehension Test At Grade Level							
None	White	0.177	0.369	0.327	0.312	0.133	-0.045
	Black	-0.411	-0.479	-0.551	-0.650	-0.881	-0.768
	Hispanic	-0.303	-0.417	-0.178	-.426	-0.442	-0.963
Less than 1	White	-0.023	0.189	0.234	-0.265	0.267	0.219
	Black	-0.043	-0.527	-0.578	-0.540	-0.748	-0.758
	Hispanic	-0.243	-0.549	-0.677	-0.679	-0.737	-0.582
From 1 to < 2	White	-0.050	-0.120	0.052	0.041	0.177	0.159
	Black	-0.005	-0.379	-0.715	-0.625	-0.747	-0.610
	Hispanic	-0.260	-0.511	-0.730	-0.663	-0.585	-0.599
From 2 to < 3	White	0.099	-0.232	-0.118	0.070	0.038	0.022
	Black	0.024	-0.479	-0.546	-0.437	-0.685	-0.774
	Hispanic	–	-0.484	-0.659	-0.547	-0.466	-0.501
3 or more	White	–	-0.269	-0.076	-0.377	-0.253	-0.124
	Black	-0.649	-0.368	-0.515	-0.397	-0.260	-0.575
	Hispanic	–	–	-0.334	-0.956	-0.456	-0.817

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-15 (continued)

Mean Achievement (Math Concepts) by Daily Hours Homework and Ethnic Group, by Grade

Hours Homework	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
None	White	0.323	0.309	0.352	0.230	0.108	-0.071
	Black	-0.404	-0.553	-0.970	-1.179	-1.091	0.872
	Hispanic	-0.387	-0.445	-0.516	-0.514	-0.695	-0.781
Less than 1	White	0.157	0.208	-0.218	0.299	0.256	0.273
	Black	-0.535	-0.724	-0.672	-0.893	-0.739	-0.793
	Hispanic	-0.407	-0.562	-0.603	-0.723	-0.820	-0.692
From 1 to < 2	White	-0.007	-0.049	0.039	0.078	0.142	0.131
	Black	-0.662	-0.632	-0.602	-0.654	-0.816	-0.694
	Hispanic	-0.686	-0.453	-0.888	-0.763	-0.663	-0.625
From 2 to < 3	White	0.060	-0.325	-0.243	0.070	0.089	0.056
	Black	-0.791	-0.659	-0.694	-0.616	-0.816	-0.831
	Hispanic	–	0.092	-0.559	-0.607	-0.181	-0.522
3 or more	White	-0.299	0.160	-0.066	0.090	-0.005	-0.073
	Black	-0.721	-0.645	-1.112	-0.624	-0.412	-0.659
	Hispanic	–	-1.725	-0.289	-1.033	-0.825	-0.891
Math Concepts Test At Grade Level							
None	White	0.209	0.329	0.355	0.239	0.138	-0.085
	Black	-0.181	-0.399	-0.993	-0.611	-1.142	-0.716
	Hispanic	-0.384	-0.319	-0.494	-0.649	-0.623	-0.647
Less than 1	White	0.088	0.200	0.280	0.282	0.247	0.257
	Black	-0.366	-0.605	-0.733	-0.744	-0.704	-0.701
	Hispanic	-0.203	-0.372	-0.863	-0.726	-0.825	-0.612
From 1 to < 2	White	0.002	-0.122	0.054	0.066	0.190	0.106
	Black	-0.399	-0.563	-0.844	-0.595	-0.753	-0.551
	Hispanic	-0.528	-0.659	-0.959	-0.576	-0.662	-0.577
From 2 to < 3	White	0.266	-0.271	-0.153	0.015	0.021	0.060
	Black	-0.566	-0.620	-0.704	-0.591	-0.598	-0.630
	Hispanic	–	-0.399	-0.670	–	-0.283	-0.868
3 or more	White	0.141	0.113	0.070	-0.144	-0.160	-0.086
	Black	–	0.016	-1.014	-0.541	-0.143	-0.566
	Hispanic	–	-1.047	-0.325	-1.177	-0.580	-0.771

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-15 (continued)

Mean Achievement (Math Computations) by Daily Hours Homework and Ethnic Group, by Grade

Hours Homework	Ethnicity	Grade					
		1	2	3	4	5	6
Math Computation Test Below Grade Level							
None	White		0.356	0.290	0.195	-0.160	-0.158
	Black		-0.483	-0.753	-0.751	-0.813	-0.762
	Hispanic		-0.413	-0.365	-0.546	-0.269	-0.877
Less than 1	White		0.146	0.169	0.261	0.215	0.127
	Black		-0.387	-0.477	-0.667	-0.513	-0.681
	Hispanic		-0.326	-0.432	-0.374	-0.307	-0.175
From 1 to < 2	White		-0.081	0.069	-0.004	0.152	0.119
	Black		-0.564	-0.744	-0.500	-0.612	-0.474
	Hispanic		-0.602	-0.622	-0.398	-0.337	-0.381
From 2 to < 3	White		-0.261	0.001	-0.023	-0.005	0.070
	Black		-0.664	-0.494	-0.499	-0.658	-0.477
	Hispanic		-0.085	-0.396	-0.005	-0.072	-0.157
3 or more	White		0.080	0.151	0.123	0.164	-0.063
	Black		-0.552	-1.069	-0.563	-0.394	-0.255
	Hispanic		-0.697	-0.191	-0.446	-0.851	-0.274
Math Computation Test At Grade Level							
None	White	0.230	0.334	0.176	0.141	-0.078	0.099
	Black	-0.203	-0.547	-0.588	-0.173	-0.892	-0.661
	Hispanic	-0.428	-0.333	-0.175	-0.322	-0.608	-0.225
Less than 1	White	0.014	0.119	0.215	0.178	0.180	0.143
	Black	-0.238	-0.407	-0.428	-0.460	-0.472	-0.484
	Hispanic	-0.147	-0.206	-0.374	-0.196	-0.648	-0.307
From 1 to < 2	White	-0.013	-0.086	0.019	0.002	0.185	0.075
	Black	-0.305	-0.412	-0.540	-0.391	-0.541	-0.346
	Hispanic	-0.263	-0.358	-0.488	-0.561	-0.475	-0.263
From 2 to < 3	White	0.200	-0.275	-0.143	0.136	0.035	0.049
	Black	-0.417	-0.673	-0.529	-0.293	-0.494	-0.406
	Hispanic	-0.433	-0.393	-0.239	-0.306	-0.100	-0.492
3 or more	White	0.041	0.045	-0.017	-0.128	-0.147	-0.146
	Black	-0.917	–	-0.851	0.144	-0.154	-0.110
	Hispanic	–	–	–	-0.742	-0.069	-0.220
Total Weight for Each Grade		2435.564	2187.048	2213.880	2040.255	2069.157	2485.886

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-16

Mean Achievement by Number of Children, by Grade

No. of Children	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
1	0.018	-0.017	0.026	0.160	-0.041	0.051
2	0.147	0.126	0.126	0.119	0.147	0.151
3	-0.073	0.022	-0.010	-0.013	0.026	-0.067
4 or more	-0.277	-0.295	-0.355	-0.319	-0.298	-0.204
Vocabulary Test At Grade Level						
1	0.036	0.003	0.027	0.173	-0.029	0.057
2	0.077	0.149	0.140	0.087	0.144	0.143
3	-0.047	-0.016	-0.024	-0.039	0.012	-0.059
4 or more	-0.138	-0.290	-0.295	-0.213	-0.265	-0.192
Reading Comprehension Test Below Grade Level						
1	0.028	-0.028	-0.031	0.108	-0.133	-0.018
2	0.102	0.161	0.142	0.086	0.168	0.125
3	-0.066	0.010	-0.012	-0.025	0.029	-0.036
4 or more	-0.184	-0.310	-0.295	-0.199	-0.272	-0.160
Reading Comprehension Test At Grade Level						
1	0.049	-0.014	-0.014	0.116	-0.090	-0.005
2	0.025	0.108	0.109	0.082	0.141	0.139
3	-0.015	-0.002	0.005	-0.030	0.025	-0.031
4 or more	-0.077	-0.207	-0.253	-0.178	-0.238	-0.196
Math Concepts Test Below Grade Level						
1	-0.060	-0.061	0.053	0.096	-0.065	-0.077
2	0.080	0.127	0.118	0.102	0.123	0.112
3	-0.026	-0.002	-0.037	-0.020	-0.013	-0.023
4 or more	-0.125	-0.225	-0.263	-0.235	-0.189	-0.115
Math Concepts Test At Grade Level						
1	-0.065	-0.033	-0.031	-0.007	-0.138	-0.048
2	0.048	0.074	0.151	0.036	0.130	0.095
3	-0.026	0.000	-0.011	0.021	0.022	-0.042
4 or more	-0.028	-0.134	-0.325	-0.106	-0.187	-0.069
Math Computation Test Below Grade Level						
1		-0.081	0.094	-0.061	-0.158	-0.081
2		0.112	0.125	0.081	0.095	0.068
3		0.020	-0.064	-0.003	0.025	0.006
4 or more		-0.220	-0.233	-0.119	-0.134	-0.080
Math Computation Test At Grade Level						
1	-0.011	-0.079	0.043	-0.028	-0.143	-0.091
2	0.053	0.067	0.107	0.083	0.108	0.066
3	-0.037	0.041	-0.031	-0.062	0.036	-0.007
4 or more	-0.067	-0.162	-0.219	-0.036	-0.165	-0.045
Total Weight for Each Grade	2402.372	2074.458	2085.623	1912.596	1916.693	2270.136

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-17

Mean Achievements (Reading) by Number of Children and Ethnic Group, by Grade

No. of Children	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
1	White	0.194	0.042	0.221	0.292	0.074	0.141
	Black	-0.555	0.043	-0.570	-0.468	-0.561	-0.555
	Hispanic	-0.401	-0.719	-1.030	-0.709	-1.022	-0.683
2	White	0.284	0.185	0.213	0.225	0.236	0.263
	Black	-0.608	-0.315	-0.794	-0.646	-0.735	-0.599
	Hispanic	-0.375	-0.549	-0.718	-0.463	-0.436	-0.653
3	White	0.069	0.115	0.152	0.160	0.168	0.047
	Black	-0.708	-0.510	-1.051	-0.784	-0.755	-0.808
	Hispanic	-0.537	-0.505	-0.914	-0.885	-0.921	-0.775
4 or more	White	-0.058	-0.064	-0.020	0.046	-0.039	0.026
	Black	-0.802	-0.826	-1.150	-1.098	-1.007	-1.219
	Hispanic	-0.694	-0.742	-0.970	-0.933	-0.589	-1.014
Vocabulary Test Below Grade Level							
1	White	0.096	0.162	0.244	0.270	0.059	0.118
	Black	-0.214	-0.368	-0.622	-0.196	-0.469	-0.359
	Hispanic	–	-0.566	-1.017	-0.444	-0.586	-0.655
2	White	0.161	0.239	0.264	0.191	0.263	0.238
	Black	-0.289	-0.564	-0.768	-0.553	-0.777	-0.538
	Hispanic	-0.370	-0.477	-0.491	-0.634	-0.542	-0.428
3	White	-0.002	0.112	0.130	-0.124	0.153	0.041
	Black	-0.156	-0.721	-0.762	-0.713	-0.737	-0.627
	Hispanic	-0.275	-0.650	-0.855	-0.880	-0.726	-0.781
4 or more	White	-0.082	-0.013	-0.095	0.086	-0.012	-0.032
	Black	-0.235	-0.960	-0.709	-0.787	-0.911	-0.793
	Hispanic	-0.294	-0.855	-0.694	-0.788	-0.575	-0.755
Reading Comprehension Test Below Grade Level							
1	White	0.169	0.094	0.169	0.218	-0.032	0.070
	Black	-0.467	-0.171	-0.504	-0.418	-0.590	-0.572
	Hispanic	-0.250	-0.729	-1.000	-0.550	-0.828	-0.727
2	White	0.199	0.236	0.257	0.189	0.273	0.229
	Black	-0.527	-0.461	-0.949	-0.605	-0.712	-0.656
	Hispanic	-0.343	-0.613	-0.588	-0.437	-0.473	-0.532
3	White	0.106	0.123	0.141	0.139	0.166	0.072
	Black	-0.730	-0.650	-0.816	-0.710	-0.711	-0.722
	Hispanic	-0.665	-0.511	-0.825	-0.910	-0.773	-0.754
4 or more	White	0.056	-0.041	-0.001	0.104	-0.027	0.051
	Black	-0.732	-0.898	-0.938	-0.803	-0.988	-1.133
	Hispanic	-0.586	-0.734	-0.831	-0.721	-0.452	-0.779
Reading Comprehension Test At Grade Level							
1	White	0.095	0.124	0.188	0.203	0.017	0.074
	Black	-0.181	-0.122	-0.614	-0.415	-0.396	-0.523
	Hispanic	-0.172	-1.008	-0.834	-0.121	-0.963	-0.613
2	White	0.070	0.169	0.221	0.182	0.252	0.235
	Black	-0.183	-0.354	-0.688	-0.553	-0.698	-0.559
	Hispanic	-0.140	-0.193	-0.516	-0.584	-0.661	-0.430
3	White	-0.011	0.117	0.157	0.135	0.154	0.058
	Black	0.057	-0.664	-0.698	-0.662	-0.616	-0.635
	Hispanic	-0.332	-0.528	-0.685	-0.985	-0.767	-0.451
4 or more	White	0.014	-0.025	-0.050	0.102	0.017	-0.004
	Black	-0.011	-0.547	-0.682	-0.673	-0.981	-1.011
	Hispanic	-0.485	-0.551	-0.610	-0.808	-0.350	-0.782

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-17 (continued)

Mean Achievement (Math) by Number of Children and Ethnic Group, by Grade

No. of Children	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
1	White	0.063	0.094	-0.202	0.179	0.032	0.010
	Black	-0.560	-0.413	-0.296	-0.437	-0.685	-0.666
	Hispanic	-0.321	-0.466	-1.115	-0.575	-0.747	-0.796
2	White	0.201	0.216	0.217	0.201	0.226	0.216
	Black	-0.580	-0.637	-0.624	-0.587	-0.829	-0.610
	Hispanic	-0.383	-0.335	-0.581	-0.566	-0.475	-0.550
3	White	0.155	0.094	0.090	0.159	0.110	0.076
	Black	-0.782	-0.628	-0.673	-0.852	-0.758	-0.686
	Hispanic	-0.808	-0.522	-0.769	-0.922	-0.887	-0.580
4 or more	White	0.074	0.028	-0.027	0.099	0.108	0.095
	Black	-0.499	-0.921	-0.859	-0.977	-0.958	-1.084
	Hispanic	-0.700	-0.571	-0.584	-0.813	-0.496	-0.844
Math Concepts Test At Grade Level							
1	White	-0.007	0.112	0.165	-0.052	-0.029	0.061
	Black	-0.310	-0.339	-0.675	-0.400	-0.498	-0.705
	Hispanic	-0.369	-0.602	-0.924	–	-1.099	-0.839
2	White	0.127	0.158	0.279	0.127	0.228	0.179
	Black	-0.433	-0.624	-0.825	-0.565	-0.638	-0.448
	Hispanic	-0.197	-0.473	-0.646	-0.605	-0.564	-0.520
3	White	0.108	0.094	0.155	0.181	0.174	0.051
	Black	-0.495	-0.519	-0.859	-0.678	-0.781	-0.594
	Hispanic	-0.707	-0.436	-0.910	-0.708	-0.599	-0.788
4 or more	White	0.093	0.065	-0.065	0.238	0.090	0.114
	Black	-0.267	-0.600	-0.912	-0.749	-0.913	-0.886
	Hispanic	-0.213	-0.608	-0.889	-0.881	-0.553	-0.586
Math Computation Test Below Grade Level							
1	White		0.042	0.215	-0.046	-0.066	-0.008
	Black		-0.309	-0.268	-0.314	-0.612	-0.551
	Hispanic		-0.735	-0.612	-0.169	-0.682	-0.326
2	White		0.196	0.244	0.161	0.174	0.129
	Black		-0.507	-0.725	-0.433	-0.508	-0.375
	Hispanic		-0.425	-0.650	-0.495	-0.390	-0.413
3	White		0.097	0.038	0.136	0.126	0.062
	Black		-0.447	-0.644	-0.718	-0.578	-0.405
	Hispanic		-0.362	-0.523	-0.471	-0.374	-0.196
4 or more	White		-0.001	-0.019	-0.103	-0.073	-0.062
	Black		-0.815	-0.830	0.740	-0.716	-0.771
	Hispanic		-0.605	-0.418	-0.250	-0.253	-0.495
Math Computation Test At Grade Level							
1	White	0.078	0.074	0.167	-0.021	-0.099	-0.048
	Black	-0.329	-0.391	-0.387	-0.015	-0.164	-0.380
	Hispanic	-0.441	-0.537	-0.463	-0.288	–	-0.201
2	White	0.111	0.140	0.194	0.135	0.192	0.122
	Black	-0.276	-0.437	-0.438	-0.060	-0.520	-0.354
	Hispanic	-0.173	-0.516	-0.356	-0.712	-0.553	-0.291
3	White	0.053	0.107	0.060	0.058	0.130	0.043
	Black	-0.400	-0.421	-0.557	-0.624	-0.409	-0.314
	Hispanic	-0.390	-0.138	-0.454	-0.609	-0.606	-0.401
4 or more	White	0.050	0.001	-0.042	0.165	0.071	0.059
	Black	-0.366	-0.715	-0.667	-0.527	-0.731	-0.500
	Hispanic	-0.139	-0.268	-0.442	-0.254	-0.485	-0.356
Total Weight for Each Grade		2337.952	2038.115	2046.064	1878.063	1885.363	2213.085

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-18

Mean Achievement by Number of Adults, by Grade

No. of Adults	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
1	-0.429	-0.425	-0.510	-0.364	-0.473	-0.350
2	0.076	0.075	0.091	0.072	0.077	0.065
3 or more	0.097	-0.077	-0.035	0.026	0.103	-0.031
Vocabulary Test At Grade Level						
1	-0.196	-0.457	-0.357	-0.361	-0.451	-0.258
2	0.040	0.083	0.077	0.085	0.083	0.044
3 or more	0.007	-0.023	-0.060	-0.064	0.083	0.003
Reading Comprehension Test Below Grade Level						
1	-0.329	-0.479	-0.443	-0.320	-0.465	-0.317
2	0.050	0.092	0.084	0.068	0.084	0.066
3 or more	0.117	-0.082	-0.014	-0.012	0.064	-0.075
Reading Comprehension Test At Grade Level						
1	-0.123	-0.344	-0.347	-0.307	-0.434	-0.325
2	0.029	0.069	0.077	0.070	0.090	0.061
3 or more	-0.056	-0.029	-0.059	-0.040	0.013	-0.032
Math Concepts Test Below Grade Level						
1	-0.360	-0.369	-0.337	-0.358	-0.434	-0.283
2	0.072	0.075	0.068	0.069	0.076	0.055
3 or more	-0.041	-0.166	-0.014	0.033	0.042	-0.032
Math Concepts Test At Grade Level						
1	-0.250	-0.305	-0.431	-0.268	-0.414	-0.328
2	0.043	0.058	0.082	0.070	0.066	0.062
3 or more	0.047	-0.030	0.013	-0.104	0.134	-0.032
Math Computation Test Below Grade Level						
1		-0.349	-0.447	-0.301	-0.323	-0.316
2		0.061	0.084	0.050	0.052	0.054
3 or more		-0.014	0.049	0.093	0.086	0.002
Math Computation Test At Grade Level						
1	-0.135	-0.289	-0.370	-0.209	-0.287	-0.305
2	0.025	0.044	0.066	0.041	0.043	0.065
3 or more	0.011	0.100	0.081	0.020	0.115	-0.070
Total Weight For Each Grade	2392.372	2074.459	2085.623	1912.597	1916.694	2270.138

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-19

Mean Achievement (Reading) by Number of Adults and Ethnic Group, by Grade

No. of Adults	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
1	White	-0.171	-0.177	0.006	0.083	-0.078	-0.015
	Black	-0.818	-0.698	-1.154	-1.010	-1.039	-0.997
	Hispanic	-0.437	-0.865	-1.242	-0.977	-1.015	-0.831
2	White	0.209	0.142	0.192	0.193	0.162	0.164
	Black	-0.587	-0.310	-0.784	-0.713	-0.633	-0.721
	Hispanic	-0.561	-0.584	-0.794	-0.698	-0.543	-0.779
3 or more	White	0.130	0.044	0.120	0.223	0.275	0.053
	Black	-0.219	-0.391	-0.709	-0.691	-0.719	-0.566
	Hispanic	-0.210	-0.256	-0.830	-0.656	-1.011	-0.946
Vocabulary Test At Grade Level							
1	White	-0.142	-0.098	0.058	-0.028	-0.086	0.026
	Black	-0.230	-0.867	-0.845	-0.777	-0.944	-0.695
	Hispanic	–	-0.853	-0.942	–	-0.899	-0.749
2	White	0.095	0.176	0.187	0.190	0.177	0.124
	Black	-0.222	-0.572	-0.632	-0.536	-0.660	-0.556
	Hispanic	-0.277	-0.675	-0.693	-0.626	-0.477	-0.600
3 or more	White	0.079	0.151	0.104	0.156	0.244	0.066
	Black	–	-0.496	-0.699	-0.743	-0.630	-0.482
	Hispanic	–	-0.216	-0.511	–	-0.766	-0.791
Reading Comprehension Test Below Grade Level							
1	White	0.022	-0.193	0.045	0.062	-0.068	0.003
	Black	-0.728	-0.806	-0.963	-0.834	-1.034	-0.895
	Hispanic	-0.445	-0.864	-1.024	-0.805	-0.889	-0.795
2	White	0.162	0.185	0.196	0.175	0.169	0.158
	Black	-0.558	-0.478	-0.736	-0.580	-0.595	-0.688
	Hispanic	-0.520	-0.627	-0.733	-0.632	-0.456	-0.628
3 or more	White	0.166	0.032	0.134	0.187	0.217	0.012
	Black	-0.272	-0.329	-0.780	-0.685	-0.643	-0.806
	Hispanic	-0.532	-0.210	-0.570	-0.676	-0.815	-0.819
Reading Comprehension Test At Grade Level							
1	White	-0.134	-0.117	0.003	0.031	-0.069	-0.047
	Black	-0.027	-0.512	-0.740	-0.707	-0.978	-0.822
	Hispanic	-0.538	-0.707	-0.814	-0.930	-0.635	-0.678
2	White	0.067	0.144	0.185	0.172	0.181	0.142
	Black	-0.105	-0.432	-0.615	-0.510	-0.555	-0.600
	Hispanic	-0.248	-0.484	-0.596	-0.639	-0.556	-0.481
3 or more	White	-0.019	0.111	0.101	0.178	0.158	0.049
	Black	-0.221	-0.335	-0.721	-0.777	-0.530	-0.673
	Hispanic	-0.140	-0.267	-0.480	-0.701	-0.979	-0.836

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-19 (continued)

Mean Achievement (Math) by Number of Adults and Ethnic Group, by Grade

No. of Adults	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
1	White	-0.080	-0.099	0.072	0.040	-0.028	0.012
	Black	-0.714	-0.761	-0.877	-0.967	-1.039	-0.873
	Hispanic	-0.509	-0.455	-0.881	-0.917	-0.952	-0.716
2	White	0.187	0.161	0.154	0.186	0.163	0.145
	Black	-0.560	-0.639	-0.491	-0.707	-0.661	-0.674
	Hispanic	-0.609	-0.479	-0.597	-0.678	-0.516	-0.630
3 or more	White	0.080	0.069	0.107	0.187	0.191	0.055
	Black	-0.437	-0.575	-0.297	-0.593	-0.786	-0.766
	Hispanic	-0.758	-0.635	-0.924	-0.761	-0.732	-0.765
Math Concepts Test At Grade Level							
1	White	-0.075	-0.078	0.022	0.045	-0.101	-0.107
	Black	-0.420	-0.587	-0.989	-0.709	-0.860	-0.747
	Hispanic	-0.394	-0.517	-1.166	-0.783	-0.867	-0.656
2	White	0.122	0.132	0.201	0.180	0.164	0.148
	Black	-0.406	-0.507	-0.738	-0.590	-0.663	-0.604
	Hispanic	-0.404	-0.524	-0.758	-0.645	-0.551	-0.592
3 or more	White	0.093	0.247	0.171	0.056	0.325	0.039
	Black	-0.105	-0.518	-0.602	-0.708	-0.767	-0.494
	Hispanic	-0.312	-0.559	-0.566	–	–	-0.897
Math Computation Test Below Grade Level							
1	White		-0.089	-0.119	-0.017	-0.057	-0.127
	Black		-0.678	-0.881	-0.873	-0.752	-0.717
	Hispanic		-0.668	-0.823	-0.329	-0.513	-0.413
2	White		0.135	0.166	0.126	0.120	0.102
	Black		-0.501	-0.524	-0.461	-0.489	-0.356
	Hispanic		-0.470	-0.406	-0.394	-0.330	-0.276
3 or more	White		0.183	0.178	0.221	0.210	0.077
	Black		-0.345	-0.277	-0.446	-0.541	-0.583
	Hispanic		-0.355	-0.658	-0.340	-0.428	-0.806
Math Computation Test At Grade Level							
1	White	-0.075	-0.060	-0.135	-0.006	-0.057	-0.153
	Black	-0.420	-0.634	-0.729	-0.526	-0.633	-0.634
	Hispanic	-0.394	-0.302	-0.560	-0.485	-0.618	-0.442
2	White	0.122	0.104	0.139	0.112	0.118	0.103
	Black	-0.406	-0.439	-0.406	-0.373	-0.479	-0.215
	Hispanic	-0.404	-0.342	-0.371	-0.452	-0.519	-0.244
3 or more	White	0.093	0.332	0.191	0.081	0.243	-0.018
	Black	-0.105	-0.310	-0.190	-0.062	-0.223	-0.379
	Hispanic	-0.312	-0.278	-0.494	-0.551	-0.649	-0.700
Total Weight for Each Grade		2337.952	2038.115	2046.064	1878.060	1885.360	2213.086

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1. A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-20

Mean Achievement by Father's Education, by Grade

Father's Education	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
Not High School Graduate	-0.533	-0.475	-0.545	-0.474	-0.477	-0.494
High School Graduate	0.089	0.059	0.058	0.082	0.083	0.094
College Graduate	0.614	0.549	0.520	0.699	0.577	0.681
Vocabulary Test At Grade Level						
Not High School Graduate	-0.252	-0.549	-0.493	-0.480	-0.468	-0.444
High School Graduate	0.006	0.058	0.043	0.077	0.056	0.080
College Graduate	0.424	0.689	0.644	0.748	0.726	0.680
Reading Comprehension Test Below Grade Level						
Not High School Graduate	-0.369	-0.466	-0.485	-0.420	-0.443	-0.425
High School Graduate	0.068	0.061	0.083	0.055	0.075	0.082
College Graduate	0.361	0.569	0.398	0.706	0.548	0.594
Reading Comprehension Test At Grade Level						
Not High School Graduate	-0.182	-0.432	-0.415	-0.404	-0.402	-0.396
High School Graduate	-0.007	0.026	0.034	0.051	0.037	0.059
College Graduate	0.352	0.684	0.565	0.681	0.654	0.628
Math Concepts Test Below Grade Level						
Not High School Graduate	-0.481	-0.458	-0.433	-0.440	-0.436	-0.400
High School Graduate	0.071	0.045	0.070	0.084	0.068	0.072
College Graduate	0.536	0.583	0.400	0.559	0.451	0.558
Math Concepts Test At Grade Level						
Not High School Graduate	-0.401	-0.421	-0.509	-0.400	-0.412	-0.386
High School Graduate	0.076	0.031	0.060	0.056	0.067	0.065
College Graduate	0.433	0.556	0.367	0.625	0.580	0.592
Math Computation Test Below Grade Level						
Not High School Graduate		-0.373	-0.378	-0.320	-0.316	-0.287
High School Graduate		0.026	0.043	0.038	0.048	0.038
College Graduate		0.513	0.432	0.547	0.367	0.442
Math Computation Test At Grade Level						
Not High School Graduate	-0.252	-0.315	-0.269	-0.247	-0.296	-0.257
High School Graduate	0.026	0.008	-0.002	0.028	0.039	0.019
College Graduate	0.347	0.476	0.405	0.411	0.458	0.469
Total Weight for Each Grade	2300.006	2049.089	2075.745	1953.464	1936.686	2346.341

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-21

Mean Achievement (Reading) by Fathers' Education and Ethnic Group, by Grade

Father's Education	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
Not High School Graduate	White	-0.420	-0.355	-0.298	-0.290	-0.278	-0.304
	Black	-0.888	-0.744	-1.091	-0.950	-1.117	-1.039
	Hispanic	-0.659	-0.772	-1.164	-0.881	-0.965	-1.133
High School Graduate	White	0.165	0.108	0.143	0.165	0.150	0.156
	Black	-0.504	-0.352	-0.740	-0.663	-0.562	-0.591
	Hispanic	-0.144	-0.367	-0.503	-0.458	-0.231	-0.432
College Graduate	White	0.679	0.558	0.553	0.769	0.613	0.710
	Black	-0.075	0.530	0.285	-0.116	-0.161	-0.146
	Hispanic	-0.603	0.054	-0.267	0.137	-0.562	0.175
Vocabulary Test At Grade Level							
Not High School Graduate	White	-0.206	-0.423	-0.316	-0.378	-0.301	-0.337
	Black	-0.255	-0.836	-0.920	-0.709	-0.979	-0.757
	Hispanic	-0.427	-0.936	-0.862	-0.780	-0.875	-0.779
High School Graduate	White	0.028	0.130	0.131	0.157	0.128	0.138
	Black	-0.139	-0.519	-0.581	-0.557	-0.572	-0.530
	Hispanic	-0.086	-0.392	-0.462	-0.534	-0.166	-0.436
College Graduate	White	0.456	0.718	0.669	0.818	0.761	0.723
	Black	0.033	0.147	0.425	-0.164	0.088	-0.272
	Hispanic	-0.600	-0.048	-0.031	0.109	0.234	0.046
Reading Comprehension Test Below Grade Level							
Not High School Graduate	White	-0.224	-0.327	-0.269	-0.289	-0.265	-0.256
	Black	-0791	-0.818	-0.913	-0.731	-1.035	-0.906
	Hispanic	-0.630	-0.821	-1.040	-0.770	-0.811	-0.983
High School Graduate	White	0.151	0.136	0.181	0.122	0.139	0.147
	Black	-0.424	-0.517	-0.694	-0.493	-0.486	-0.647
	Hispanic	-0.424	-0.374	-0.437	-0.481	-0.156	-0.444
College Graduate	White	0.372	0.590	0.427	0.776	0.584	0.621
	Black	0.012	0.099	0.005	-0.125	-0.071	-0.293
	Hispanic	-0.504	-0.019	0.081	-	-0.174	0.250
Reading Comprehension Test At Grade Level							
Not High School Graduate	White	-0.153	-0.361	-0.274	-0.296	-0.241	-0.264
	Black	-0.219	-0.607	-0.679	-0.616	-0.866	-0.806
	Hispanic	-0.238	-0.566	-0.741	-0.738	-0.841	-0.796
High School Graduate	White	0.015	0.094	0.124	0.115	0.113	0.119
	Black	-0.075	-0.514	-0.581	-0.456	-0.550	-0.586
	Hispanic	-0.281	-0.454	-0.581	-0.479	-0.383	-0.466
College Graduate	White	0.372	0.708	0.589	0.761	0.689	0.665
	Black	-0.054	0.190	0.370	-0.150	0.072	-0.224
	Hispanic	-0.213	0.573	-0.036	-0.553	0.056	0.443

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-21 (continued)

Mean Achievement (Math) by Fathers' Education and Ethnic Group, by Grade

Father's Education	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
Not High School Graduate	White	-0.355	-0.329	-0.261	-0.303	-0.263	-0.247
	Black	-0.803	-0.775	-0.734	-0.780	-1.027	-0.898
	Hispanic	-0.754	-0.819	-0.942	-0.842	-0.908	-0.854
High School Graduate	White	0.163	0.109	0.146	0.165	0.137	0.131
	Black	-0.607	-0.604	-0.459	-0.661	-0.552	-0.604
	Hispanic	-0.410	-0.220	-0.233	-0.506	-0.239	-0.440
College Graduate	White	0.582	0.602	0.398	0.634	0.470	0.594
	Black	-0.195	0.207	0.385	-0.207	-0.443	-0.327
	Hispanic	-0.359	0.257	0.037	-0.094	-0.172	0.075
Math Concepts Test At Grade Level							
Not High School Graduate	White	-0.319	-0.318	-0.291	-0.273	-0.252	-0.257
	Black	-0.579	-0.710	-0.973	-0.757	-0.907	-0.673
	Hispanic	-0.593	-0.649	-1.042	-0.689	-0.838	-0.875
High School Graduate	White	0.145	0.094	0.158	0.133	0.152	0.115
	Black	-0.463	-0.487	-0.734	-0.605	-0.593	-0.478
	Hispanic	-0.242	-0.411	-0.409	-0.427	-0.362	-0.459
College Graduate	White	0.455	0.583	0.575	0.704	0.636	0.638
	Black	-0.158	0.019	0.488	-0.097	-0.436	-0.424
	Hispanic	0.190	0.040	0.314	-0.707	-0.242	-0.057
Math Computation Test Below Grade Level							
Not High School Graduate	White		-0.253	-0.221	-0.255	0.235	-0.208
	Black		-0.745	-0.713	-0.596	-0.628	-0.632
	Hispanic		-0.548	-0.718	-0.360	-0.426	-0.421
High School Graduate	White		0.074	0.110	0.090	0.097	0.070
	Black		-0.435	-0.512	-0.400	-0.368	-0.334
	Hispanic		-0.302	-0.020	-0.533	-0.124	-0.224
College Graduate	White		0.537	0.417	0.627	0.395	0.448
	Black		0.226	0.529	-0.398	-0.465	0.276
	Hispanic		0.230	0.154	-0.073	-0.483	0.050
Math Computation Test At Grade Level							
Not High School Graduate	White	-0.247	-0.276	-0.157	-0.209	-0.196	-0.208
	Black	-0.296	-0.560	-0.445	-0.383	-0.555	-0.360
	Hispanic	-0.261	-0.242	-0.545	-0.323	-0.609	-0.427
High School Graduate	White	0.072	0.069	0.054	0.075	0.089	0.038
	Black	-0.264	-0.475	-0.458	-0.285	-0.343	-0.287
	Hispanic	-0.279	-0.468	-0.052	-0.613	-0.259	0.062
College Graduate	White	0.381	0.500	0.401	0.458	0.524	0.482
	Black	-0.217	-0.002	0.462	0.039	-0.691	0.328
	Hispanic	–	0.175	-0.225	-0.435	–	–
Total Weight for Each Grade		2230.772	2008.328	2030.365	1907.004	1886.611	2289.370

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1. A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-22

Mean Achievement by Welfare/AFDC, by Grade

Welfare/AFDC	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
No Welfare	0.097	0.090	0.112	0.105	0.116	0.082
Welfare, No AFDC	-0.547	-0.473	-0.609	-0.476	-0.724	-0.811
Welfare Including AFDC	-0.629	-0.622	-0.789	-0.674	-0.741	-0.684
Vocabulary Test At Grade Level						
No Welfare	0.037	0.106	0.097	0.093	0.112	0.067
Welfare, No AFDC	-0.230	-0.529	-0.453	-0.418	-0.645	-0.623
Welfare Including AFDC	-0.236	-0.692	-0.625	-0.579	-0.710	-0.552
Reading Comprehension Test Below Grade Level						
No Welfare	0.073	0.096	0.105	0.089	0.112	0.071
Welfare, No AFDC	-0.371	-0.436	-0.529	-0.584	-0.772	-0.723
Welfare Including AFDC	-0.494	-0.645	-0.665	-0.538	-0.688	-0.591
Reading Comprehension Test At Grade Level						
No Welfare	0.022	0.085	0.091	0.078	0.108	0.070
Welfare, No AFDC	-0.096	-0.408	-0.427	-0.512	-0.706	-0.675
Welfare Including AFDC	-0.154	-0.496	-0.571	-0.470	-0.668	-0.581
Math Concepts Test Below Grade Level						
No Welfare	0.081	0.092	0.087	0.093	0.106	0.068
Welfare, No AFDC	-0.464	-0.483	-0.349	-0.418	-0.770	-0.627
Welfare Including AFDC	-0.571	-0.593	-0.605	-0.638	-0.735	-0.589
Math Concepts Test At Grade Level						
No Welfare	0.051	0.069	0.101	0.078	0.106	0.071
Welfare, No AFDC	-0.254	-0.405	-0.409	-0.570	-0.699	-0.658
Welfare Including AFDC	-0.361	-0.436	-0.709	-0.474	-0.683	-0.597
Math Computation Test Below Grade Level						
No Welfare		0.086	0.087	0.087	0.081	0.058
Welfare, No AFDC		-0.442	-0.355	-0.396	-0.605	-0.597
Welfare Including AFDC		-0.571	-0.592	-0.554	-0.547	-0.485
Math Computation Test At Grade Level						
No Welfare	0.035	0.066	0.069	0.054	0.086	0.053
Welfare, No AFDC	-0.085	-0.417	-0.323	-0.138	-0.596	-0.601
Welfare Including AFDC	-0.261	-0.419	-0.471	-0.363	-0.535	-0.423
Total Weight for Each Grade	2719.648	2400.913	2450.157	2318.899	2313.111	2704.318

NOTE: A blank space indicates that only at-grade-level math computation test was administered at grade 1.

Table B-23

Mean Achievement by Welfare/AFDC and Ethnic Group, by Grade

Welfare/AFDC	Ethnicity	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
No Welfare	White	0.229	0.171	0.254	0.261	0.242	0.210
	Black	-0.531	-0.321	-0.732	-0.705	-0.709	-0.691
	Hispanic	-0.412	-0.494	-0.797	-0.647	-0.632	-0.844
Welfare, No AFDC	White	-0.391	-0.219	-0.294	-0.175	-0.503	-0.596
	Black	-0.884	-0.734	-0.823	-0.504	-0.974	-1.187
	Hispanic	-0.049	-0.982	-1.678	–	-1.120	-0.957
Welfare Including AFDC	White	-0.384	-0.396	-0.259	-0.314	-0.441	-0.399
	Black	-0.925	-0.738	-1.136	-0.969	-0.897	-1.024
	Hispanic	-0.489	-1.025	-1.226	-0.914	-0.973	-0.850
Vocabulary Test At Grade Level							
No Welfare	White	0.098	0.229	0.244	0.226	0.237	0.170
	Black	-0.193	-0.565	-0.639	-0.522	-0.633	-0.506
	Hispanic	-0.305	-0.583	-0.632	-0.609	-0.532	-0.628
Welfare, No AFDC	White	-0.148	-0.370	-0.242	-0.185	-0.387	-0.454
	Black	–	-0.706	-0.568	-0.545	-1.045	-0.942
	Hispanic	–	-0.795	–	-1.270	–	–
Welfare, Including AFDC	White	-0.211	-0.517	-0.318	-0.304	-0.431	-0.396
	Black	-0.233	-0.812	-0.813	-0.800	-0.852	-0.729
	Hispanic	-0.338	-0.985	-0.891	-0.748	-0.849	-0.657
Reading Comprehension Test Below Grade Level							
No Welfare	White	0.190	0.218	0.247	0.223	0.238	0.192
	Black	-0.448	-0.451	-0.649	-0.569	-0.692	-0.659
	Hispanic	-0.514	-0.567	-0.693	-0.587	-0.485	-0.754
Welfare, No AFDC	White	-0.199	-0.186	-0.299	-0.351	-0.576	-0.493
	Black	-0.687	-0.738	-0.697	-0.715	-1.102	-1.139
	Hispanic	-0.323	-0.739	–	–	-1.097	-1.155
Welfare Including AFDC	White	-0.141	-0.351	-0.216	-0.194	-0.461	-0.344
	Black	-0.788	-0.855	-0.933	-0.791	-0.805	-0.899
	Hispanic	-0.571	-0.943	-1.041	-0.755	-0.847	-0.677
Reading Comprehension Test At Grade Level							
No Welfare	White	0.054	0.181	0.226	0.207	0.232	0.176
	Black	-0.058	-0.389	-0.541	-0.509	-0.610	-0.561
	Hispanic	-0.207	-0.442	-0.577	-0.611	-0.546	-0.597
Welfare No AFDC	White	-0.103	-0.271	-0.275	-0.273	-0.600	-0.479
	Black	-0.099	-0.419	-0.558	-0.795	-0.827	-0.960
	Hispanic	–	–	-0.813	–	–	–
Welfare Including AFDC	White	-0.119	-0.378	-0.299	-0.206	-0.427	-0.400
	Black	-0.082	-0.543	-0.725	-0.642	-0.816	-0.854
	Hispanic	-0.540	-0.692	-0.802	-0.736	-0.708	-0.558

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-23 (continued)

Mean Achievement by Welfare/AFDC and Ethnic Group, by Grade

Welfare/AFDC	Ethnicity	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
No Welfare	White	0.213	0.198	0.205	0.226	0.216	0.177
	Black	-0.561	-0.505	-0.518	-0.612	-0.679	-0.644
	Hispanic	-0.533	-0.464	-0.634	-0.628	-0.563	-0.617
Welfare, No AFDC	White	-0.253	-0.377	-0.225	-0.135	-0.522	-0.303
	Black	-0.814	-0.852	-0.329	-0.362	-1.311	-1.292
	Hispanic	-0.681	-0.182	-0.984	–	-1.153	-0.899
Welfare Including AFDC	White	-0.377	-0.287	-0.220	-0.283	-0.411	-0.317
	Black	-0.740	-0.858	-0.866	-0.896	-0.903	-0.868
	Hispanic	-0.739	-0.888	-0.891	-0.944	-0.956	-0.796
Math Concepts Test At Grade Level							
No Welfare	White	0.143	0.173	0.253	0.205	0.234	0.169
	Black	-0.379	-0.495	-0.703	-0.560	-0.612	-0.473
	Hispanic	-0.394	-0.483	-0.703	-0.532	-0.574	-0.669
Welfare, No AFDC	White	0.018	-0.461	-0.105	-0.240	-0.471	-0.385
	Black	-0.672	-0.583	-0.659	–	-1.000	-1.160
	Hispanic	-0.826	0.508	-1.411	–	–	–
Welfare Including AFDC	White	-0.261	-0.187	-0.325	-0.138	-0.498	-0.430
	Black	-0.448	-0.623	-0.952	-0.755	-0.794	-0.843
	Hispanic	-0.404	-0.811	-1.049	-0.763	-0.755	-0.607
Math Computation Test Below Grade Level							
No Welfare	White		0.174	0.196	0.178	0.167	0.121
	Black		-0.407	-0.511	-0.475	-0.497	-0.384
	Hispanic		-0.371	-0.413	-0.250	-0.294	-0.295
Welfare, No AFDC	White		-0.323	-0.145	-0.374	-0.354	-0.512
	Black		-0.660	-0.616	-0.292	-1.081	-0.903
	Hispanic		-0.621	-1.013	-0.560	-0.695	-0.637
Welfare Including AFDC	White		-0.257	-0.306	-0.342	-0.411	-0.329
	Black		-0.842	-0.801	-0.731	-0.687	-0.709
	Hispanic		-0.881	-0.750	-0.664	-0.287	-0.424
Math Computation Test At Grade Level							
No Welfare	White	0.096	0.145	0.159	0.130	0.176	0.104
	Black	-0.257	-0.393	-0.385	-0.282	-0.403	-0.261
	Hispanic	-0.218	-0.241	-0.350	-0.389	-0.456	-0.287
Welfare, No AFDC	White	0.040	-0.370	-0.199	-0.337	-0.447	-0.584
	Black	–	-0.591	-0.556	0.152	-0.882	-0.842
	Hispanic	–	-0.169	-0.691	–	–	–
Welfare Including AFDC	White	-0.030	-0.169	-0.221	-0.208	-0.414	-0.349
	Black	-0.435	-0.695	-0.704	-0.494	-0.620	-0.563
	Hispanic	-0.478	-0.567	-0.479	-0.506	-0.412	-0.281
Total Weight for Each Grade		2640.421	2350.792	2393.065	2263.251	2260.522	2639.597

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1. A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-24

Mean Achievement by Urbanization, by Grade

Urbanization	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
Over 500,000	-0.309	-0.408	-0.736	-0.531	-0.677	-0.569
200,000 to 500,000	-0.513	-0.232	-0.699	-0.212	-0.298	-0.383
50,000 to 200,000	0.041	-0.008	-0.018	0.124	0.104	0.130
Under 50,000	0.153	0.034	0.120	0.016	0.066	0.028
Suburban	0.188	0.282	0.318	0.252	0.283	0.300
Rural	-0.049	0.057	0.133	0.100	0.025	-0.044
Vocabulary Test At Grade Level						
Over 500,000	-0.129	-0.522	-0.582	-0.471	-0.604	-0.441
200,000 to 500,000	-0.289	-0.257	-0.473	-0.112	-0.319	-0.188
50,000 to 200,000	0.031	0.054	-0.038	0.149	0.117	0.134
Under 50,000	0.074	0.055	0.104	0.038	0.053	-0.003
Suburban	0.143	0.311	0.337	0.254	0.319	0.333
Rural	-0.060	0.039	0.111	0.022	-0.002	-0.061
Reading Comprehension Test Below Grade Level						
Over 500,000	-0.376	-0.490	-0.635	-0.516	-0.562	-0.540
200,000 to 500,000	-0.350	-0.352	-0.538	-0.133	-0.269	-0.239
50,000 to 200,000	0.100	0.049	-0.040	0.139	0.049	0.139
Under 50,000	0.069	0.045	0.107	0.049	0.033	0.006
Suburban	-0.002	0.242	0.343	0.189	0.250	0.222
Rural	0.120	0.086	0.120	0.077	0.063	0.003
Reading Comprehension Test At Grade Level						
Over 500,000	0.062	-0.392	-0.480	-0.451	-0.615	-0.486
200,000 to 500,000	-0.111	-0.155	-0.454	-0.146	-0.330	-0.104
50,000 to 200,000	-0.023	0.016	-0.024	0.071	0.023	0.194
Under 50,000	0.007	0.038	0.053	0.028	0.040	-0.014
Suburban	0.068	0.290	0.325	0.193	0.287	0.269
Rural	-0.042	0.034	0.120	0.096	0.076	-0.035

Table B-24 (continued)

Mean Achievement by Urbanization, by Grade

Urbanization	Grade					
	1	2	3	4	5	6
Math Concepts Test Below Grade Level						
Over 500,000	-0.391	-0.464	-0.555	-0.555	-0.646	-0.548
200,000 to 500,000	-0.397	-0.242	-0.412	-0.279	-0.246	-0.351
50,000 to 200,000	0.095	0.147	0.020	0.101	0.024	0.102
Under 50,000	0.115	0.038	0.045	0.075	0.073	0.050
Suburban	0.089	0.259	0.202	0.236	0.279	0.314
Rural	0.031	0.012	0.135	0.061	0.050	-0.069
Math Concepts Test At Grade Level						
Over 500,000	-0.267	-0.327	-0.624	-0.477	-0.589	-0.507
200,000 to 500,000	-0.228	-0.109	-0.573	-0.163	-0.001	-0.085
50,000 to 200,000	0.020	0.129	-0.023	0.041	0.034	0.161
Under 50,000	0.106	-0.021	0.118	0.060	0.031	0.027
Suburban	0.078	0.227	0.263	0.247	0.293	0.296
Rural	-0.005	0.018	0.127	0.055	0.036	-0.078
Math Computation Test Below Grade Level						
Over 500,000		-0.388	-0.503	-0.377	-0.346	-0.290
200,000 to 500,000		-0.131	-0.237	-0.152	0.022	-0.247
50,000 to 200,000		0.058	-0.096	0.057	0.043	0.130
Under 50,000		-0.009	0.044	0.003	0.047	0.025
Suburban		0.275	0.284	0.264	0.184	0.217
Rural		0.043	0.131	0.057	-0.023	-0.078
Math Computation Test At Grade Level						
Over 500,000	-0.220	-0.227	-0.463	-0.303	-0.421	-0.305
200,000 to 500,000	-0.219	-0.113	-0.103	-0.278	-0.111	-0.244
50,000 to 200,000	0.029	0.057	-0.035	0.072	0.001	0.173
Under 50,000	0.085	-0.018	0.017	0.036	0.017	0.019
Suburban	0.063	0.187	0.240	0.155	0.237	0.272
Rural	0.001	0.021	0.115	0.037	0.038	-0.110
Total Weight For Each Grade	2719.647	2411.270	2447.269	2318.898	2313.111	2713.649

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-25

Mean Achievement (Vocabulary) by Ethnic Group and Urbanization, by Grade

Ethnicity	Urbanization	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
White	Over 500,000	0.216	0.027	0.048	0.303	-0.145	0.089
	200,000 to 500,000	0.042	0.221	-0.090	0.267	0.097	0.304
	50,000 to 200,000	0.181	0.087	0.160	0.293	0.296	0.334
	Under 50,000	0.309	0.110	0.215	0.148	0.222	0.172
	Suburban	0.266	0.368	0.438	0.356	0.362	0.385
	Rural	0.017	0.087	0.202	0.170	0.093	0.028
Black	Over 500,000	-0.683	-0.612	-0.842	-0.881	-0.795	-0.690
	200,000 to 500,000	-1.065	-0.699	-1.239	-0.936	-1.142	-1.172
	50,000 to 200,000	-0.792	-0.520	-0.735	-0.775	-0.740	-0.865
	Under 50,000	-0.495	-0.574	-0.961	-1.086	-0.896	-0.959
	Suburban	-0.192	0.035	0.494	-0.175	-0.478	-0.216
	Rural	-0.726	-0.239	-0.934	-0.571	-0.820	-1.102
Hispanic	Over 500,000	-0.448	-0.583	-1.195	-0.893	-1.021	-1.029
	200,000 to 500,000	-0.159	-1.539	-1.562	-1.034	-1.196	-0.847
	50,000 to 200,000	-0.017	-0.451	-0.708	-0.430	-0.448	-0.793
	Under 50,000	-0.880	-0.392	-0.267	-0.356	-0.285	-0.770
	Suburban	-0.020	-0.454	-0.765	-0.483	-0.183	-0.299
	Rural	-0.540	-0.944	-0.727	-0.576	-0.607	-0.908
Vocabulary Test At Grade Level							
White	Over 500,000	0.107	0.042	-0.082	0.242	-0.096	0.080
	200,000 to 500,000	-0.114	0.202	-0.005	0.368	0.034	0.393
	50,000 to 200,000	0.088	0.174	0.132	0.303	0.320	0.318
	Under 50,000	0.129	0.168	0.196	0.140	0.202	0.105
	Suburban	0.191	0.464	0.498	0.347	0.416	0.430
	Rural	-0.033	0.076	0.177	0.077	0.063	-0.019
Black	Over 500,000	-0.200	-0.765	-0.675	-0.691	-0.744	-0.577
	200,000 to 500,000	–	-0.773	-0.953	-0.779	-0.900	-0.833
	50,000 to 200,000	-0.172	-0.638	-0.567	-0.683	-0.682	-0.750
	Under 50,000	-0.156	-0.766	-0.757	-0.702	-0.812	-0.713
	Suburban	0.031	-0.264	-0.477	-0.151	-0.446	-0.183
	Rural	-0.378	-0.394	-0.735	-0.533	-0.748	-0.551
Hispanic	Over 500,000	-0.280	-0.739	-0.871	-0.856	-0.762	-0.770
	200,000 to 500,000	-0.540	-1.178	-1.038	-0.624	-1.016	-0.593
	500,000 to 200,000	-0.285	-0.316	-0.525	0.218	-0.587	-0.558
	Under 50,000	-0.327	-0.542	-0.328	-0.324	-0.314	-0.597
	Suburban	–	-0.398	-0.771	-0.454	-0.264	-0.286
	Rural	-0.303	-0.718	-0.398	-0.416	-0.572	-0.686

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-25 (continued)

Mean Achievement (Reading Comprehension) by Ethnic Group and Urbanization, by Grade

Ethnicity	Urbanization	Grade					
		1	2	3	4	5	6
Reading Comprehension Test Below Grade Level							
White	Over 500,000	0.148	0.025	-0.061	0.073	-0.040	0.111
	200,000 to 500,000	0.099	0.282	-0.011	0.276	0.028	0.430
	50,000 to 200,00	0.236	0.149	0.181	0.289	0.235	0.324
	Under 50,000	0.182	0.149	0.198	0.163	0.190	0.130
	Suburban	0.066	0.343	0.533	0.283	0.336	0.303
	Rural	0.175	0.133	0.174	0.140	0.126	0.066
Black	Over 500,000	-0.590	-0.696	-0.617	-0.716	-0.706	-0.654
	200,000 to 500,000	-0.850	-0.947	-0.989	-0.790	-1.015	-1.064
	50,000 to 200,000	-0.632	-0.525	-0.782	-0.710	-0.813	-0.913
	Under 50,000	-0.446	-0.711	-0.897	-0.792	-0.890	-0.866
	Suburban	-0.252	-0.123	-0.487	-0.243	-0.482	-0.310
	Rural	-0.741	-0.423	-0.935	0.497	-0.677	-0.899
Hispanic	Over 500,000	-0.605	-0.706	-1.047	-0.796	-0.797	-0.973
	200,000 to 500,000	-0.112	-1.366	-1.175	-0.683	-0.910	-0.742
	50,000 to 200,000	-0.031	-0.318	-0.654	-0.141	-0.318	-0.378
	Under 50,000	-0.558	-0.309	-0.133	-0.405	-0.274	-0.651
	Suburban	-0.576	-0.462	-0.698	-0.457	-0.224	-0.253
	Rural	-0.378	-0.846	-0.411	-0.499	-0.548	-0.748
Reading Comprehension Test At Grade Level							
White	Over 500,000	0.242	-0.052	-0.193	0.181	-0.045	0.074
	200,000 to 500,000	0.254	0.160	-0.099	0.213	-0.050	0.446
	50,0000 200,000	0.024	0.115	0.186	0.176	0.181	0.372
	Under 50,0000	0.036	0.124	0.149	0.126	0.174	0.097
	Suburban	0.148	0.451	0.494	0.288	0.372	0.357
	Rural	-0.053	0.062	0.177	0.163	0.145	0.017
Black	Over 500,000	0.223	-0.509	-0.480	-0.626	-0.780	-0.658
	200,000 to 500,000	-0.352	-0.429	-0.794	-0.647	-0.732	-0.855
	50,000 to 200,000	-0.305	-0.478	-0.733	-0.541	-0.657	-0.724
	Under 50,000	-0.054	-0.536	-0.697	-0.644	-0.716	-0.768
	Suburban	-0.191	-0.271	-0.429	-0.306	-0.388	-0.255
	Rural	-0.047	-0.256	-0.678	-0.480	-0.691	-0.745
Hispanic	Over 500,000	-0.290	-0.522	-0.719	-0.817	-0.777	0.785
	200,000 to 500,000	-0.356	-0.804	-0.975	-0.795	-0.985	0.370
	50,000 to 200,000	-0.255	-0.305	-0.504	-0.229	-0.337	-0.362
	Under 50,000	-0.142	-0.475	-0.427	-0.356	-0.393	-0.585
	Suburban	-0.526	-0.411	-0.831	-0.305	-0.137	-0.210
	Rural	-0.080	-0.537	-0.326	-0.461	-0.447	-0.631

Table B-25 (continued)

Mean Achievement (Math Concepts) by Ethnic Group and Urbanization, by Grade

Ethnicity	Urbanization	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
White	Over 500,000	0.105	0.039	0.183	0.094	-0.142	-0.027
	200,000 to 500,000	0.073	0.126	0.178	0.084	0.002	0.273
	50,000 to 200,000	0.240	0.247	0.130	0.230	0.202	0.165
	Under 50,000	0.235	0.137	0.111	0.189	0.223	0.168
	Suburban	0.204	0.403	0.325	0.344	0.322	0.412
	Rural	0.089	0.057	0.187	0.129	0.110	-0.011
Black	Over 500,000	-0.658	-0.871	-0.776	-0.823	-0.752	-0.766
	200,000 to 500,00	-0.855	-0.669	-0.976	-0.933	-0.975	-1.001
	50,000 to 200,000	-0.591	-0.440	-0.287	-0.692	-0.854	-0.840
	Under 50,000	-0.412	-0.633	-0.571	-0.859	-0.877	-0.727
	Suburban	-0.404	-0.266	-0.363	-0.169	-0.733	-0.302
	Rural	-0.977	-0.516	-0.647	-0.520	-0.631	-0.982
Hispanic	Over 500,000	-0.632	-0.433	-0.817	-0.909	-0.929	-0.770
	200,00 to 500,000	-0.296	-1.133	-1.427	-0.775	-1.038	-0.672
	50,000 to 200,000	-0.189	-0.156	-0.539	-0.196	-0.329	-0.353
	Under 50,000	-0.882	-0.725	-0.403	-0.341	-0.262	-0.805
	Suburban	-0.430	-0.551	-0.721	-0.579	-0.120	-0.423
	Rural	-0.116	-0.863	-0.696	-0.677	-0.661	-0.576
Math Concepts Test At Grade Level							
White	Over 500,000	0.067	0.140	0.073	0.061	-0.117	0.058
	200,000 to 500,000	-0.030	0.361-	-0.115	0.061	0.251	0.378
	50,000 to 200,000	0.108	0.215	0.188	0.160	0.247	0.290
	Under 50,000	0.216	0.073	0.216	0.168	0.171	0.141
	Suburban	0.143	0.404	0.428	0.351	0.408	0.382
	Rural	0.031	0.050	0.187	0.139	0.097	-0.033
Black	Over 500,000	-0.380	-0.573	-0.738	-0.679	-0.710	0.644
	200,000 to 500,000	-0.430	-0.635	-1.036	-0.677	-0.428	-0.739
	50,000 to 200,000	-0.422	-0.391	-0.705	-0.657	-0.851	-0.654
	Under 50,000	-0.492	-0.691	-0.963	-0.700	-0.760	–
	Suburban	-0.100	-0.491	-0.544	-0.206	-0.600	-0.156
	Rural	-0.639	-0.294	-0.782	-0.706	-0.542	-0.640
Hispanic	Over 500,000	-0.475	-0.498	-1.042	-0.750	-0.782	0.870
	200,000 to 500,000	–	-0.953	-1.253	-0.277	–	-0.337
	50,000 to 200,000	-0.050	-0.146	-0.718	-0.271	-0.633	0.166
	Under 50,000	-0.565	-0.522	-0.211	-0.480	-0.486	-0.769
	Suburban	-0.529	-0.387	-0.863	-0.359	-0.261	0.384
	Rural	–	-0.663	-0.517	-0.667	-0.415	-0.750

NOTE: A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-25 (continued)

Mean Achievement (Math Computation) by Ethnic Group and Urbanization, by Grade

Ethnicity	Urbanization	Grade					
		1	2	3	4	5	6
Math Computation Test Below Grade Level							
White	Over 500,000		0.006	-0.134	-0.075	0.033	0.161
	200,000 to 500,000		0.133	0.220	0.079	0.141	-0.043
	50,000 to 200,000		0.156	0.075	0.146	0.220	0.274
	Under 50,000		0.093	0.112	0.100	0.161	0.099
	Suburban		0.431	0.413	0.343	0.224	0.270
	Rural		0.075	0.178	0.111	0.025	-0.052
Black	Over 500,000		-0.711	-0.652	-0.562	-0.530	-0.577
	200,000 to 500,000		-0.388	-0.661	-0.714	-0.847	-0.677
	50,000 to 200,000		-0.425	-0.638	-0.558	-0.746	-0.645
	Under 50,000		-0.695	-0.799	-0.877	-0.738	-0.526
	Surburban		-0.335	-0.405	-0.017	-0.461	-0.022
	Rural		-0.409	-0.450	-0.481	-0.392	-0.494
Hispanic	Over 500,000		-0.377	-0.583	-0.400	-0.331	-0.370
	200,000 to 500,000		-1.224	-1.203	-0.273	-0.125	-0.026
	50,000 to 200,000		-0.353	-0.559	0.133	-0.299	-0.320
	Under 50,000		-0.754	-0.185	-0.248	-0.243	-0.326
	Suburban		-0.380	-0.398	-0.302	-0.327	-0.554
	Rural		-0.370	-0.575	-0.564	-0.205	-0.325
Math Computation Test At Grade Level							
White	Over 500,000	-0.067	0.079	-0.204	-0.222	-0.074	0.120
	200,000 to 500,00	-0.030	0.217	0.300	-0.161	0.066	-0.122
	50,000 to 200,000	0.135	0.150	0.081	0.158	0.179	0.262
	Under 50,000	0.170	0.070	0.062	0.090	0.106	0.078
	Suburban	0.116	0.318	0.353	0.264	0.321	0.304
	Rural	0.011	0.053	0.160	0.083	0.079	-0.085
Black	Over 500,00	-0.299	-0.550	-0.619	-0.301	-0.535	-0.517
	200,000 to 500,000	-0.380	-0.488	-0.501	-0.614	-0.430	-
	50,000 to 200,000	-0.480	-0.413	-0.404	-0.421	-0.648	-0.350
	Under 50,000	-0.283	-0.619	-0.472	-0.390	-0.580	-0.423
	Suburban	-0.178	-0.305	-0.391	-0.189	-0.387	0.101
	Rural	-0.313	-0.400	-0.424	-0.390	-0.149	-0.410
Hispanic	Over 500,000	-0.228	-0.134	-0.462	-0.345	-0.514	-0.434
	200,000 to 500,000	-0.258	-0.717	-0.611	-0.171	-0.175	-0.318
	50,000 to 200,000	-0.268	-0.389	-0.338	-0.128	-0.803	0.094
	Under 50,000	-0.404	-0.512	-0.276	-0.246	-0.166	-0.200
	Suburban	-0.328	-0.428	-0.225	-0.922	-0.385	-0.022
	Rural	0.094	-0.321	-0.399	-0.645	-0.504	-0.506
Total Weight for Each Grade		2696.137	2411.271	2447.003	2311.786	2302.720	2713.648

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.
A dash (–) indicates insufficient sample size to estimate mean achievement.

Table B-26

Mean Achievement by Region and Grade

Region	Grade					
	1	2	3	4	5	6
Vocabulary Test Below Grade Level						
Non-South	0.166	0.114	0.160	0.127	0.108	0.107
South	-0.271	-0.204	-0.328	-0.259	-0.206	-0.193
Vocabulary Test At Grade Level						
Non-South	0.090	0.156	0.135	0.108	0.103	0.083
South	-0.143	-0.252	-0.270	-0.211	-0.189	-0.146
Reading Comprehension Test Below Grade Level						
Non-South	0.088	0.120	0.146	0.118	0.092	0.083
South	-0.151	-0.204	-0.302	-0.234	-0.175	-0.147
Reading Comprehension Test At Grade Level						
Non-South	0.038	0.130	0.124	0.092	0.088	0.072
South	-0.060	-0.199	-0.248	-0.176	-0.160	-0.125
Math Concepts Test Below Grade Level						
Non-South	0.108	0.092	0.133	0.130	0.103	0.113
South	-0.187	-0.163	-0.263	-0.264	-0.200	-0.199
Math Concepts Test At Grade Level						
Non-South	0.083	0.118	0.153	0.115	0.123	0.073
South	-0.138	-0.194	-0.314	-0.224	-0.225	-0.126
Math Computation Test Below Grade Level						
Non-South		0.104	0.077	0.107	0.094	0.104
South		-0.182	-0.161	-0.213	-0.185	-0.182
Math Computation Test At Grade Level						
Non-South	0.071	0.083	0.055	0.062	0.080	0.090
South	-0.116	-0.136	-0.112	-0.122	-0.145	-0.155
Total Weight for Each Grade	2696.137	2411.271	2447.269	2311.785	2302.719	2713.648

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-27

Mean Achievement (Reading) by Ethnic Group and Region, by Grade

Ethnicity	Region	Grade					
		1	2	3	4	5	6
Vocabulary Test Below Grade Level							
White	Non-South	0.315	0.240	0.319	0.315	0.269	0.245
	South	-0.071	-0.080	-0.072	-0.014	-0.040	-0.024
Black	Non-South	-0.482	-0.256	-0.699	-0.624	-0.620	-0.486
	South	-0.742	-0.632	-0.981	-0.914	-0.944	-0.973
Hispanic	Non-South	-0.429	-0.645	-0.973	-0.775	-0.718	-0.895
	South	-0.362	-0.088	-0.500	-0.289	-0.695	-0.639
Vocabulary Test At Grade Level							
White	Non-South	0.155	0.315	0.315	0.274	0.272	0.201
	South	-0.083	-0.085	-0.071	-0.019	-0.029	-0.009
Black	Non-South	-0.086	-0.439	-0.591	-0.503	-0.607	-0.398
	South	-0.244	-0.755	-0.758	-0.690	-0.832	-0.705
Hispanic	Non-South	-0.276	-0.695	-0.739	-0.697	0.642	-0.685
	South	-0.512	-0.256	-0.372	-0.326	-0.345	-0.332
Reading Comprehension Test Below Grade Level							
White	Non-South	0.229	0.272	0.303	0.292	0.251	0.215
	South	0.038	-0.018	-0.045	-0.045	0.055	0.048
Black	Non-South	-0.512	-0.362	-0.521	-0.541	-0.627	-0.534
	South	-0.600	-0.746	-0.895	-0.731	-0.852	-0.870
Hispanic	Non-South	-0.514	-0.663	-0.842	-0.691	-0.592	-0.810
	South	-0.337	-0.228	-0.371	-0.176	-0.407	-0.278
Reading Comprehension Test At Grade Level							
White	Non-South	0.059	0.270	0.288	0.251	0.258	0.193
	South	0.004	-0.093	-0.056	0.031	0.039	0.041
Black	Non-South	0.235	-0.369	-0.479	-0.480	-0.659	-0.531
	South	-0.183	-0.487	-0.693	-0.619	-0.740	-0.740
Hispanic	Non-South	-0.255	-0.507	-0.656	-0.684	-0.621	-0.653
	South	-0.364	-0.433	-0.441	-0.269	-0.272	-0.278

Table B-27 (continued)

Mean Achievement (Math) by Ethnic Group and Region, by Grade

Ethnicity	Region	Grade					
		1	2	3	4	5	6
Math Concepts Test Below Grade Level							
White	Non-South	0.256	0.235	0.298	0.305	0.251	0.241
	South	0.009	0.000	-0.111	-0.086	0.033	-0.028
Black	Non-South	-0.531	-0.599	-0.619	-0.634	-0.619	-0.579
	South	-0.668	-0.669	-0.650	-0.758	-0.928	-0.836
Hispanic	Non-South	-0.587	-0.549	-0.719	-0.783	-0.662	-0.707
	South	-0.325	-0.163	-0.680	-0.106	-0.514	-0.488
Math Concepts Test Grade Level							
White	Non-South	0.181	0.239	0.340	0.273	0.299	0.194
	South	-0.007	-0.045	-0.098	-0.041	-0.041	-0.018
Black	Non-South	-0.248	-0.372	-0.662	-0.519	-0.648	-0.463
	South	-0.473	-0.632	-0.875	-0.706	-0.749	-0.673
Hispanic	Non-South	-0.445	-0.513	-0.851	-0.646	-0.647	-0.755
	South	-0.057	-0.227	-0.390	-0.257	-0.503	-0.095
Math Computation Test Below Grade Level							
White	Non-South		0.225	0.215	0.222	0.195	0.182
	South		-0.035	0.037	-0.064	-0.012	-0.079
Black	Non-South		-0.427	-0.604	-0.426	-0.459	-0.401
	South		-0.638	-0.648	-0.648	-0.696	-0.557
Hispanic	Non-South		-0.489	-0.529	-0.381	-0.261	-0.328
	South		-0.124	-0.359	0.119	-0.469	-0.541
Math Computation Test At Grade Level							
White	Non-South	0.150	0.181	0.176	0.152	0.214	0.161
	South	-0.031	-0.008	-0.029	-0.018	-0.025	-0.086
Black	Non-South	-0.249	-0.431	-0.548	-0.279	-0.539	-0.301
	South	-0.345	-0.523	-0.479	-0.394	-0.476	-0.417
Hispanic	Non-South	-0.306	-0.305	-0.424	-0.386	-0.441	-0.332
	South	0.063	-0.044	-0.111	-0.169	-0.473	-0.135
Total Weight for Each Grade		2644.365	2411.272	2447.269	2311.785	2302.721	2713.649

NOTE: A blank space indicates that only the at-grade-level math computation test was administered at grade 1.

Table B-28

Proportion of Each Group, by Grade

Hours TV		Grade					
		1	2	3	4	5	6
Less than 1		0.062	0.053	0.047	0.046	0.055	0.048
From 1 to < 2		0.230	0.232	0.213	0.200	0.186	0.184
From 2 to < 3		0.371	0.355	0.374	0.364	0.368	0.381
From 3 to < 4		0.226	0.240	0.246	0.239	0.242	0.255
4 or more		0.111	0.119	0.121	0.151	0.148	0.132
Hours TV	**Ethnicity**						
Less than 1	White	0.045	0.040	0.037	0.036	0.042	0.040
	Black	0.012	0.008	0.007	0.005	0.007	0.004
	Hispanic	0.006	0.004	0.002	0.005	0.004	0.004
From 1 to < 2	White	0.180	0.186	0.175	0.169	0.158	0.160
	Black	0.034	0.030	0.025	0.022	0.021	0.016
	Hispanic	0.017	0.017	0.014	0.010	0.007	0.010
From 2 to < 3	White	0.297	0.290	0.311	0.295	0.298	0.327
	Black	0.048	0.040	0.040	0.052	0.055	0.033
	Hispanic	0.029	0.027	0.018	0.019	0.016	0.017
From 3 to < 4	White	0.174	0.194	0.179	0.181	0.190	0.205
	Black	0.035	0.034	0.048	0.038	0.042	0.037
	Hispanic	0.014	0.013	0.021	0.018	0.014	0.013
4 or more	White	0.080	0.085	0.088	0.110	0.102	0.103
	Black	0.020	0.024	0.022	0.020	0.027	0.019
	Hispanic	0.011	0.009	0.012	0.020	0.017	0.012

Table B-28 (continued)

Proportion of Each Group by Grade

Hours Homework		Grade					
		1	2	3	4	5	6
None		0.292	0.241	0.202	0.135	0.108	0.090
Less than 1		0.391	0.399	0.396	0.350	0.311	0.276
From 1 to <2		0.261	0.291	0.319	0.392	0.449	0.466
From 2 to <3		0.046	0.060	0.068	0.104	0.110	0.136
3 or more		0.009	0.009	0.015	0.019	0.022	0.032
Hours Homework	**Ethnicity**						
None	White	0.269	0.218	0.186	0.122	0.093	0.077
	Black	0.013	0.012	0.010	0.007	0.009	0.009
	Hispanic	0.010	0.011	0.008	0.005	0.005	0.004
Less than 1	White	0.314	0.346	0.338	0.307	0.271	0.253
	Black	0.043	0.024	0.032	0.027	0.030	0.015
	Hispanic	0.034	0.029	0.028	0.021	0.015	0.013
From 1 to <2	White	0.169	0.204	0.222	0.294	0.345	0.386
	Black	0.069	0.063	0.072	0.062	0.073	0.047
	Hispanic	0.025	0.024	0.022	0.034	0.028	0.029
From 2 to <3	White	0.018	0.024	0.037	0.057	0.070	0.101
	Black	0.021	0.032	0.023	0.034	0.032	0.026
	Hispanic	0.006	0.005	0.008	0.010	0.008	0.008
3 or more	White	0.005	0.003	0.008	0.011	0.011	0.018
	Black	0.004	0.006	0.005	0.006	0.008	0.012
	Hispanic	0.001	0.001	0.002	0.002	0.003	0.002

Table B-28 (continued)

Proportion of Each Group by Grade

No. of Children		Grade					
		1	2	3	4	5	6
1		0.124	0.109	0.121	0.115	0.128	0.133
2		0.424	0.388	0.382	0.371	0.354	0.345
3		0.303	0.316	0.355	0.328	0.324	0.337
4 or more		0.150	0.186	0.162	0.186	0.194	0.185
No. of Children	**Ethnicity**						
1	White	0.094	0.083	0.095	0.096	0.109	0.113
	Black	0.023	0.019	0.019	0.012	0.014	0.016
	Hispanic	0.007	0.008	0.007	0.007	0.007	0.003
2	White	0.354	0.340	0.338	0.325	0.311	0.304
	Black	0.047	0.032	0.032	0.033	0.032	0.026
	Hispanic	0.021	0.014	0.014	0.014	0.010	0.014
3	White	0.243	0.267	0.275	0.270	0.270	0.292
	Black	0.041	0.031	0.039	0.040	0.041	0.033
	Hispanic	0.022	0.018	0.019	0.018	0.014	0.014
4 or more	White	0.107	0.131	0.111	0.125	0.135	0.151
	Black	0.024	0.036	0.031	0.039	0.040	0.021
	Hispanic	0.016	0.021	0.019	0.023	0.017	0.015

Table B-28 (continued)

Proportion of Each Group by Grade

No. of Children		Grade					
		1	2	3	4	5	6
1		0.149	0.142	0.153	0.158	0.155	0.127
2		0.787	0.797	0.767	0.745	0.728	0.745
3 or more		0.063	0.061	0.080	0.098	0.117	0.127
No. of Adults	**Ethnicity**						
1	White	0.079	0.078	0.086	0.093	0.090	0.084
	Black	0.056	0.049	0.051	0.044	0.053	0.033
	Hispanic	0.013	0.016	0.013	0.020	0.011	0.012
2	White	0.665	0.701	0.668	0.646	0.637	0.662
	Black	0.071	0.058	0.062	0.063	0.060	0.054
	Hispanic	0.048	0.038	0.040	0.035	0.031	0.029
3 or more	White	0.054	0.043	0.065	0.076	0.098	0.113
	Black	0.007	0.012	0.009	0.015	0.014	0.009
	Hispanic	0.005	0.006	0.006	0.006	0.006	0.005

Table B-28 (continued)

Proportion of Each Group by Grade

No. of Children		Grade					
		1	2	3	4	5	6
Not High School Graduate		0.290	0.287	0.285	0.320	0.315	0.330
High School Graduate		0.523	0.523	0.516	0.517	0.521	0.502
College Graduate		0.187	0.190	0.199	0.163	0.165	0.168
Father's Education	**Ethnicity**						
Not High School Graduate	White	0.205	0.210	0.200	0.226	0.232	0.253
	Black	0.042	0.041	0.040	0.050	0.047	0.039
	Hispanic	0.047	0.038	0.048	0.043	0.037	0.039
High School Graduate	White	0.458	0.464	0.454	0.462	0.457	0.462
	Black	0.043	0.039	0.046	0.041	0.046	0.031
	Hispanic	0.020	0.018	0.013	0.013	0.016	0.011
College Graduate	White	0.173	0.178	0.189	0.152	0.157	0.157
	Black	0.010	0.007	0.005	0.010	0.007	0.006
	Hispanic	0.003	0.004	0.006	0.003	0.002	0.002

Table B-28 (continued)

Proportion of Each Group by Grade

No. of Children		Grade					
		1	2	3	4	5	6
No Welfare		0.871	0.863	0.866	0.863	0.866	0.897
Welfare, No AFDC		0.020	0.026	0.020	0.016	0.022	0.019
Welfare Including AFDC		0.108	0.110	0.114	0.121	0.113	0.083
Welfare/AFDC	**Ethnicity**						
No Welfare	White	0.718	0.731	0.726	0.722	0.733	0.777
	Black	0.092	0.081	0.089	0.089	0.091	0.076
	Hispanic	0.059	0.053	0.054	0.052	0.045	0.045
Welfare, No AFDC	White	0.013	0.016	0.010	0.009	0.013	0.012
	Black	0.005	0.006	0.006	0.005	0.005	0.006
	Hispanic	0.001	0.003	0.002	0.002	0.002	0.001
Welfare Including AFDC	White	0.049	0.049	0.049	0.055	0.043	0.041
	Black	0.048	0.047	0.047	0.050	0.053	0.029
	Hispanic	0.014	0.012	0.016	0.016	0.015	0.014

Table B-28 (continued)

Proportion of Each Group by Grade

No. of Children		Grade					
		1	2	3	4	5	6
Over 500,000		0.127	0.127	0.118	0.141	0.112	0.086
200,000 to 500,000		0.044	0.040	0.046	0.030	0.027	0.016
50,000 to 200,000		0.133	0.134	0.139	0.128	0.131	0.109
Under 50,000		0.295	0.300	0.274	0.308	0.298	0.346
Suburban		0.139	0.135	0.123	0.134	0.146	0.143
Rural		0.262	0.264	0.301	0.258	0.286	0.301
Ethnicity	**Urbanization**						
White	Over 500,000	0.046	0.039	0.031	0.045	0.025	0.026
	200,000 to 500,000	0.020	0.023	0.023	0.018	0.017	0.008
	50,000 to 200,000	0.105	0.113	0.107	0.105	0.103	0.090
	Under 50,000	0.245	0.262	0.241	0.262	0.243	0.300
	Suburban	0.114	0.109	0.100	0.117	0.130	0.124
	Rural	0.245	0.246	0.284	0.236	0.268	0.281
Black	Over 500,000	0.048	0.049	0.053	0.057	0.064	0.033
	200,000 to 500,000	0.020	0.015	0.019	0.008	0.005	0.005
	50,000 to 200,000	0.019	0.015	0.025	0.019	0.020	0.014
	Under 50,000	0.030	0.028	0.020	0.027	0.035	0.032
	Suburban	0.021	0.019	0.015	0.018	0.015	0.014
	Rural	0.014	0.013	0.011	0.016	0.016	0.014
Hispanic	Over 500,000	0.037	0.039	0.035	0.041	0.028	0.027
	200,000 to 500,000	0.004	0.003	0.003	0.003	0.003	0.003
	50,000 to 200,000	0.009	0.007	0.008	0.005	0.007	0.005
	Under 50,000	0.012	0.010	0.012	0.013	0.012	0.013
	Suburban	0.006	0.007	0.008	0.005	0.005	0.005
	Rural	0.005	0.004	0.006	0.004	0.005	0.007

Table B-28 (continued)

Proportion of Each Group by Grade

No. of Children		Grade					
		1	2	3	4	5	6
Non-South		0.626	0.635	0.677	0.671	0.650	0.639
South		0.374	0.365	0.323	0.329	0.350	0.361
Ethnicity	**Region**						
White	Non-South	0.513	0.520	0.557	0.547	0.527	0.545
	South	0.260	0.272	0.229	0.238	0.259	0.284
Black	Non-South	0.050	0.051	0.057	0.060	0.069	0.040
	South	0.105	0.087	0.086	0.085	0.084	0.072
Hispanic	Non-South	0.062	0.063	0.063	0.064	0.053	0.054
	South	0.010	0.006	0.007	0.007	0.007	0.006

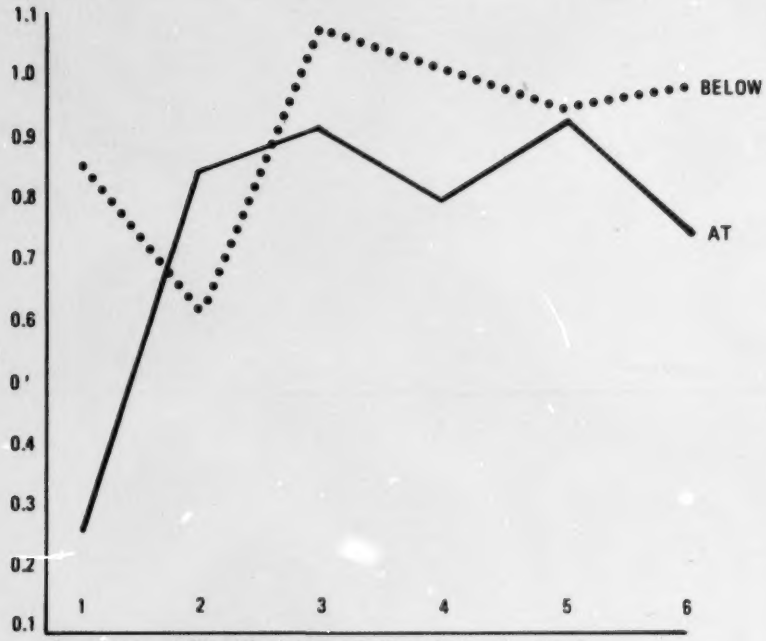

Figure B-1 White-Black Gaps in Vocabulary by Grade

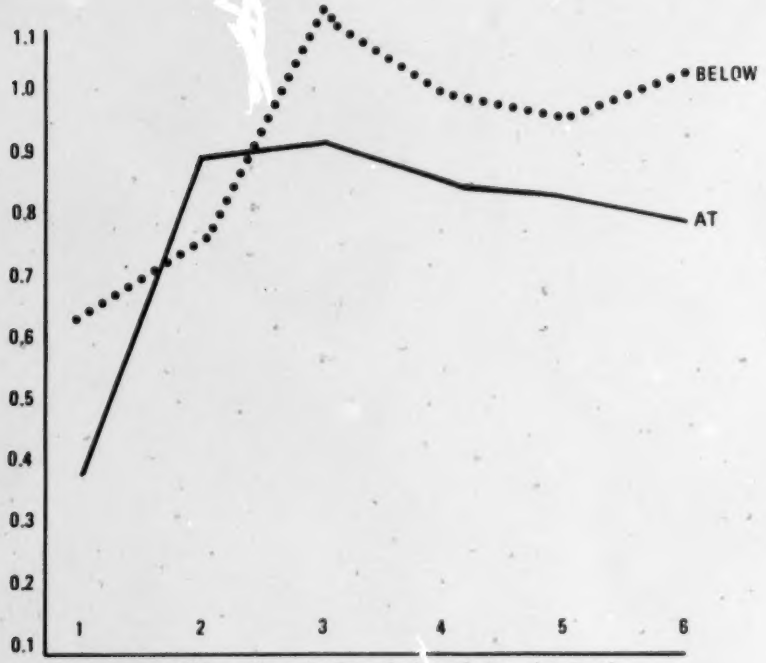

Figure B-2 White-Hispanic Gaps in Vocabulary by Grade

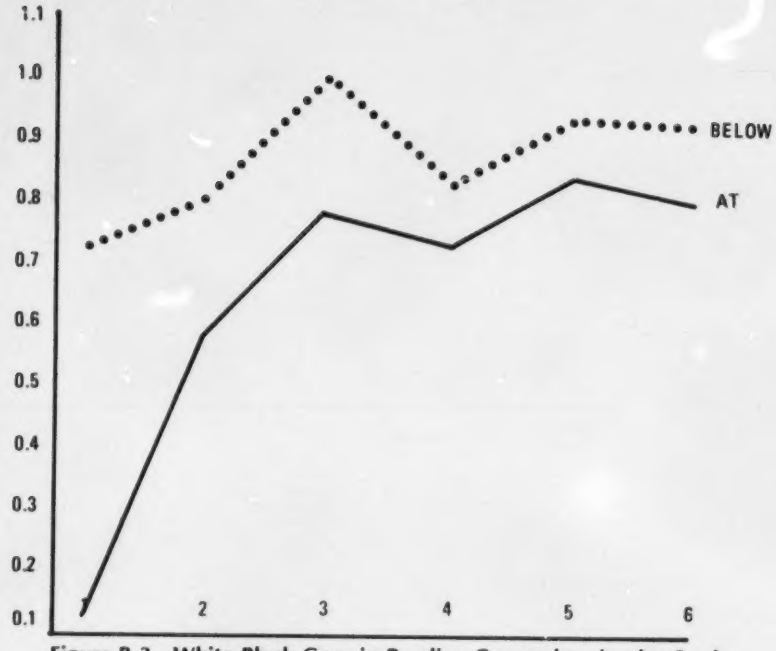

Figure B-3 White-Black Gaps in Reading Comprehension by Grade

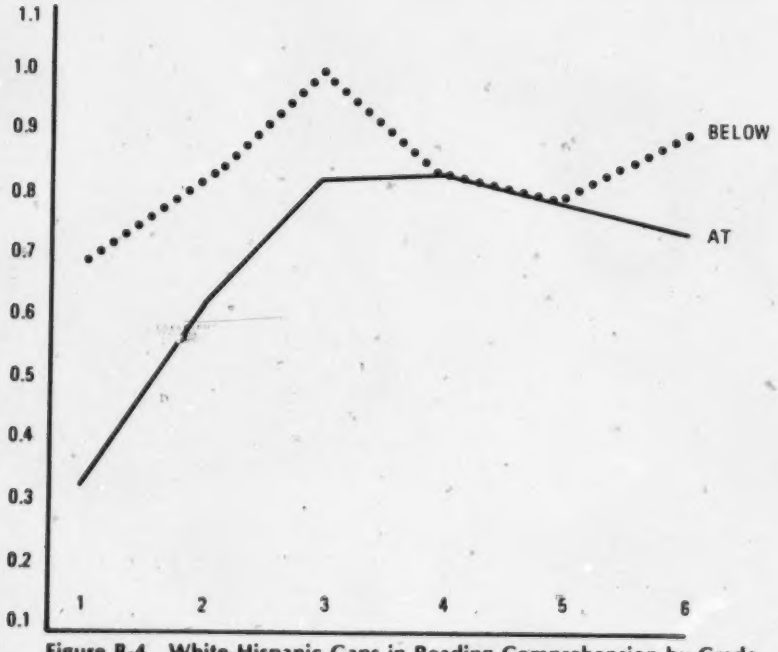

Figure B-4 White-Hispanic Gaps in Reading Comprehension by Grade

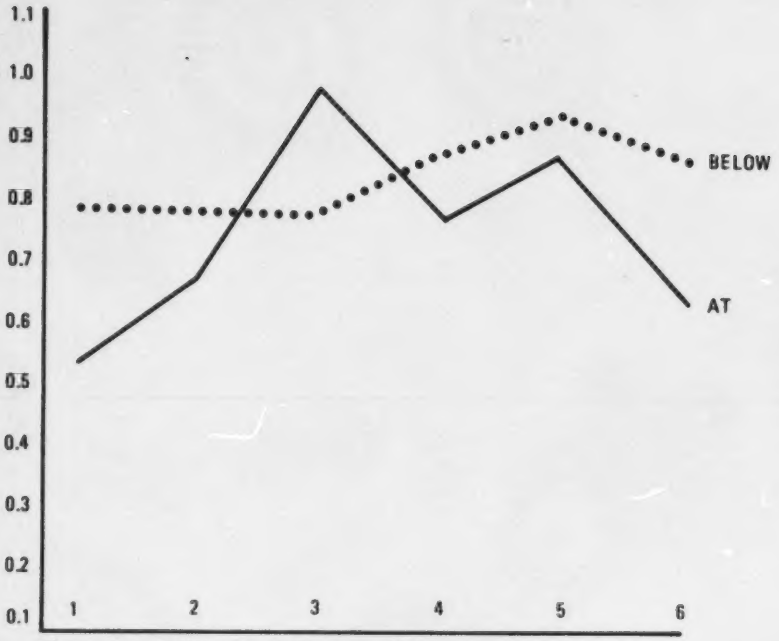

Figure B-5 White-Black Gaps in Math Concepts by Grade

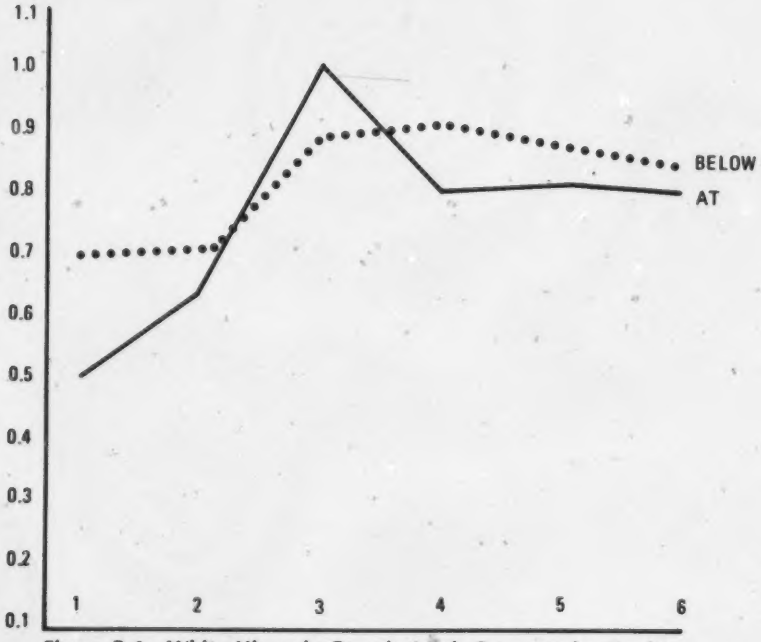

Figure B-6 White-Hispanic Gaps in Math Concepts by Grade

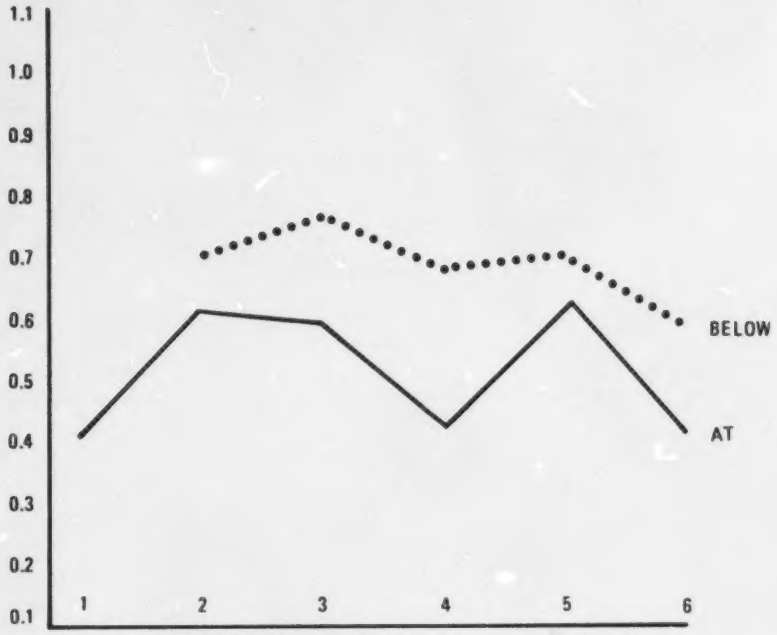

Figure B-7 White-Black Gaps in Math Computation by Grade

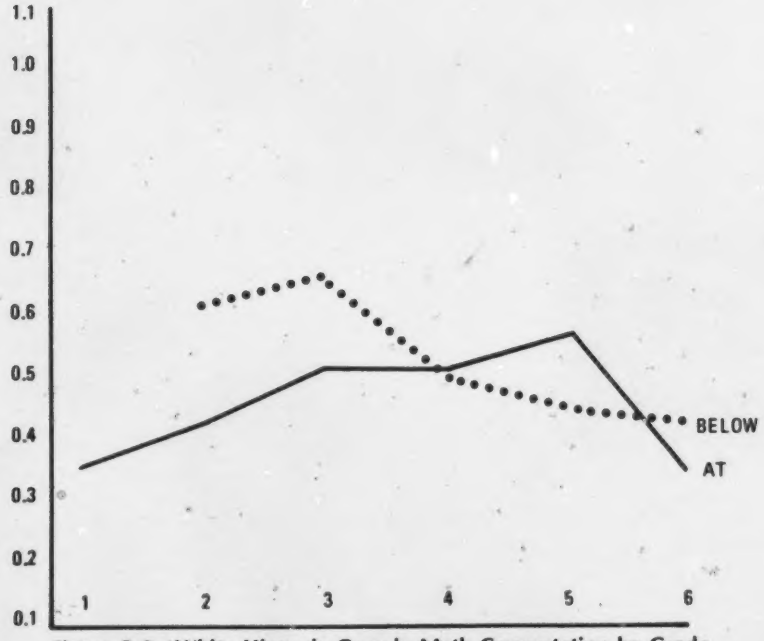

Figure B-8 White-Hispanic Gaps in Math Computation by Grade

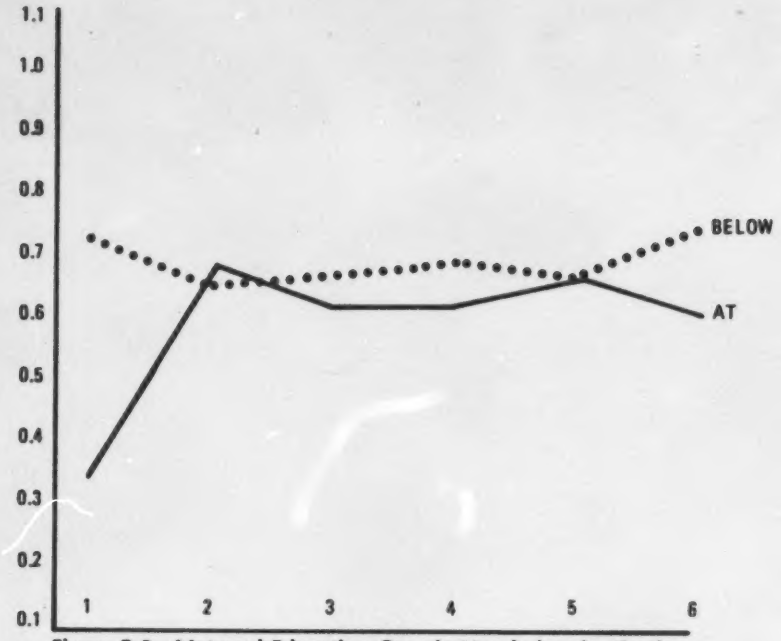

Figure B-9 Maternal Education Gaps in Vocabulary by Grade: High School Graduate - High School Dropout

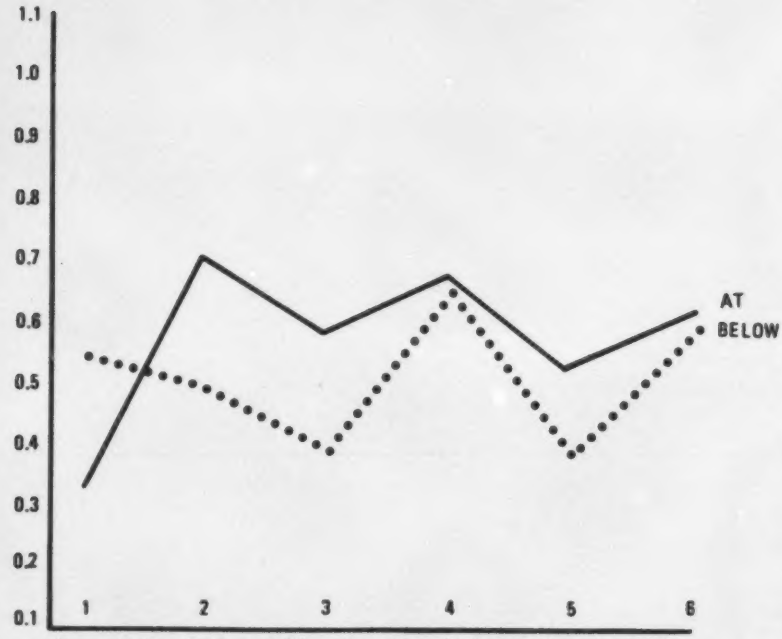

Figure B-10 Maternal Education Gaps in Vocabulary by Grade: College Graduate - High School Dropout

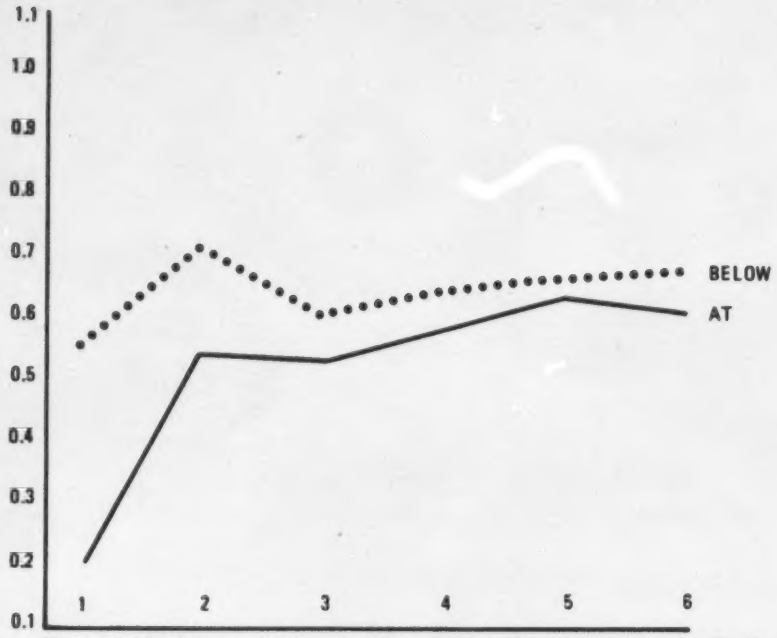

Figure B-11 Maternal Education Gaps in Reading Comprehension by Grade: High School Graduate - High School Dropout

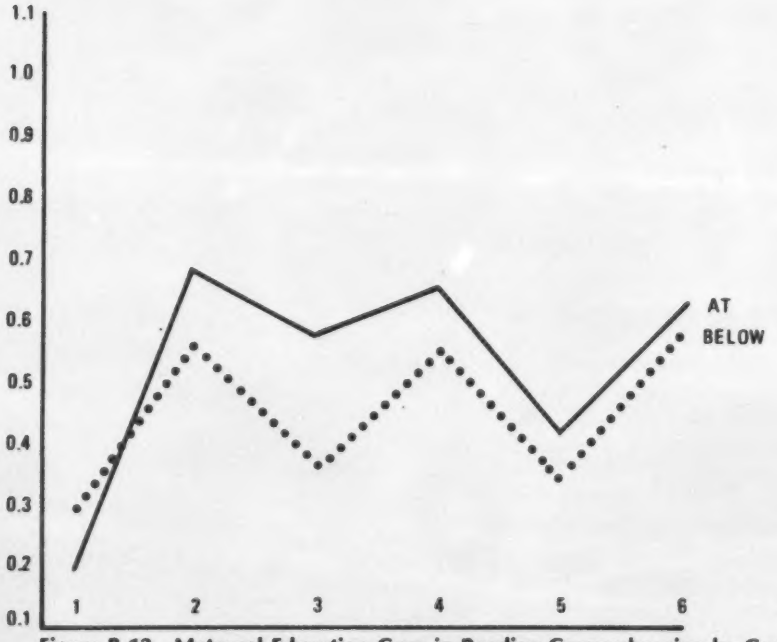

Figure B-12 Maternal Education Gaps in Reading Comprehension by Grade: College Graduate - High School Graduate

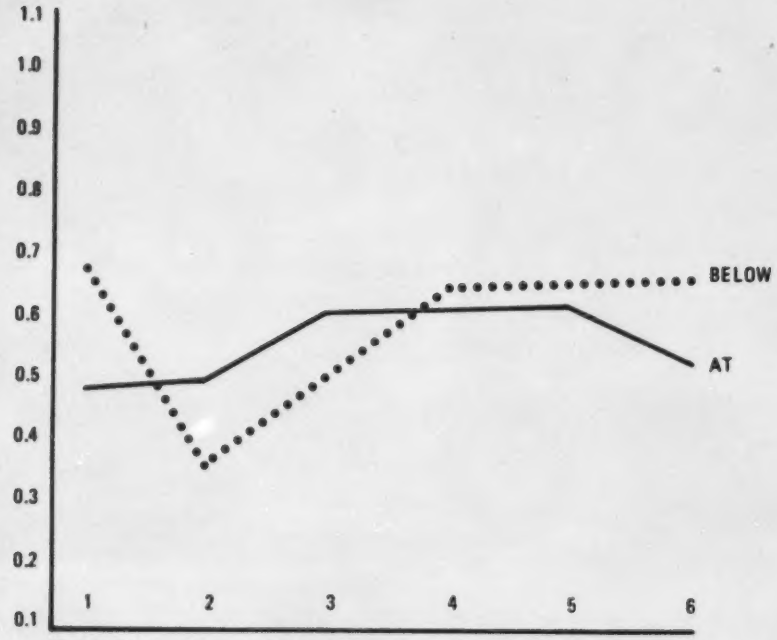

Figure B-13 Maternal Education Gaps in Math Concepts by Grade: High School Graduate - High School Dropout

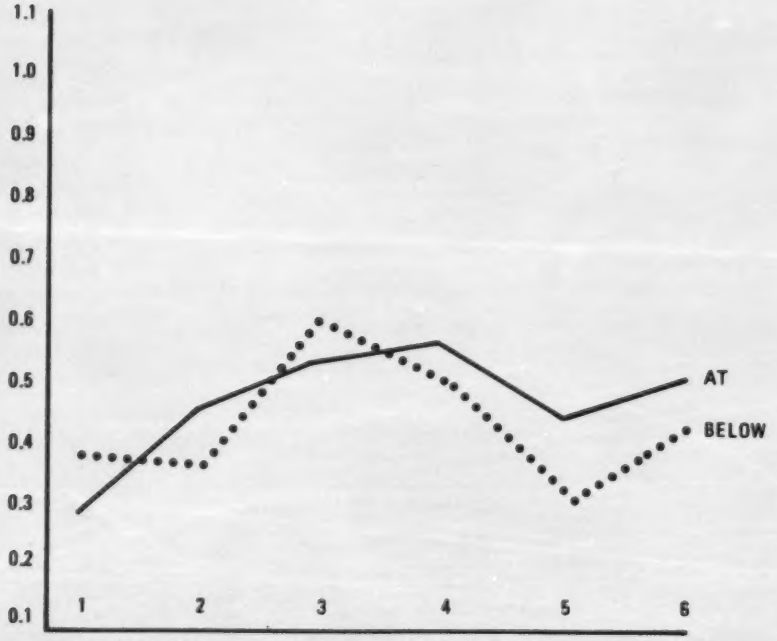

Figure B-14 Maternal Education Gaps in Math Concepts by Grade: College Graduate - High School Graduate

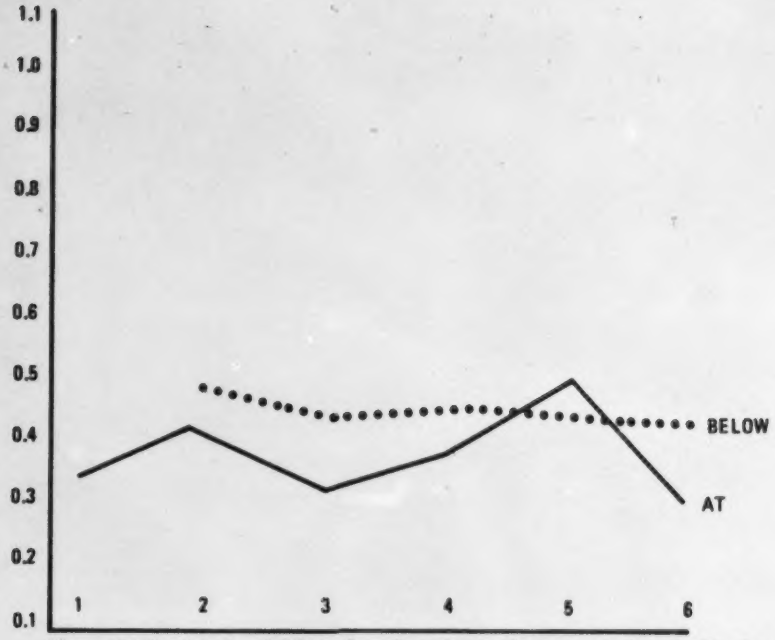

Figure B-15 Maternal Education Gaps in Math Computation by Grade: High School Graduate - High School Dropout

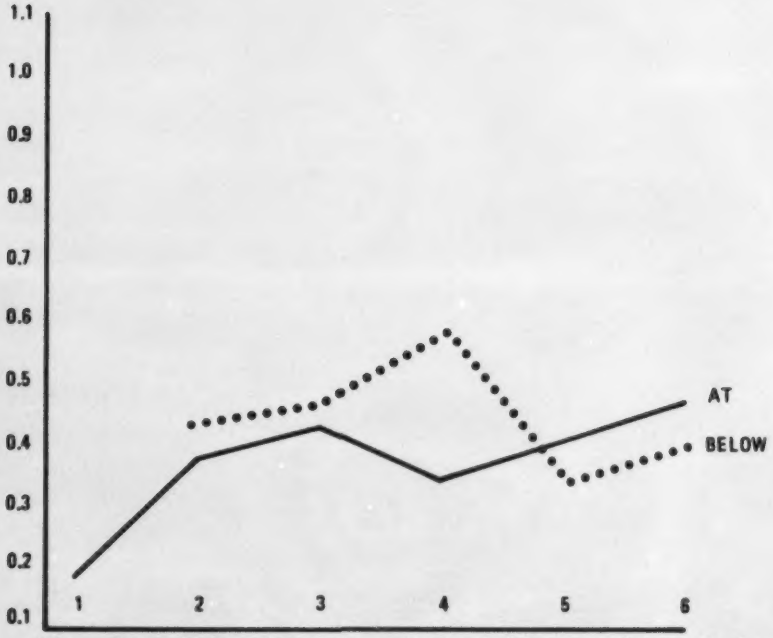

Figure B-16 Maternal Education Gaps in Math Computation by Grade: College Graduate - High School Graduate

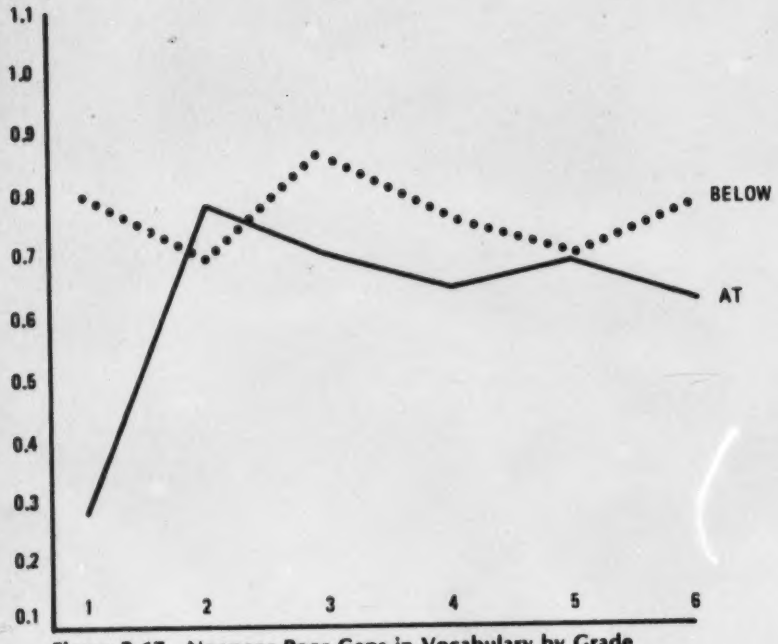

Figure B-17 Nonpoor-Poor Gaps in Vocabulary by Grade

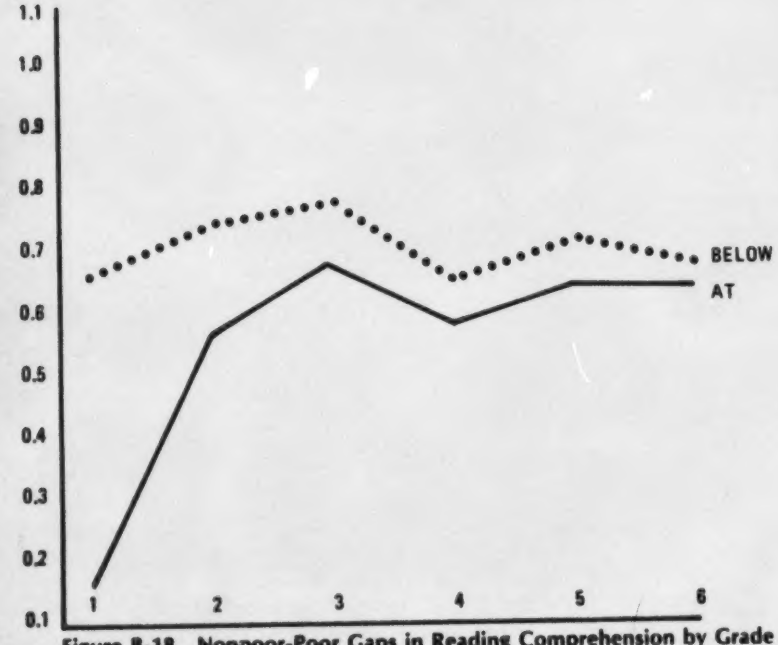

Figure B-18 Nonpoor-Poor Gaps in Reading Comprehension by Grade

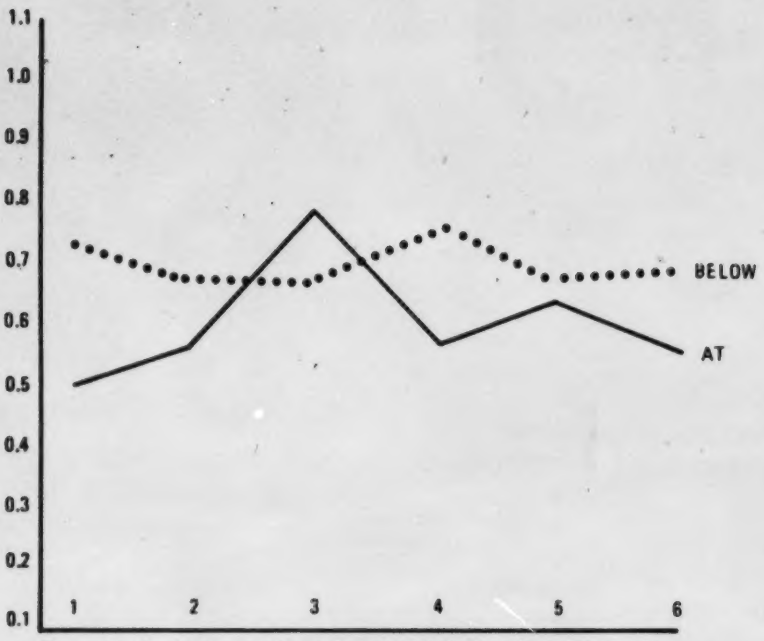

Figure B-19 Nonpoor-Poor Gaps in Math Concepts by Grade

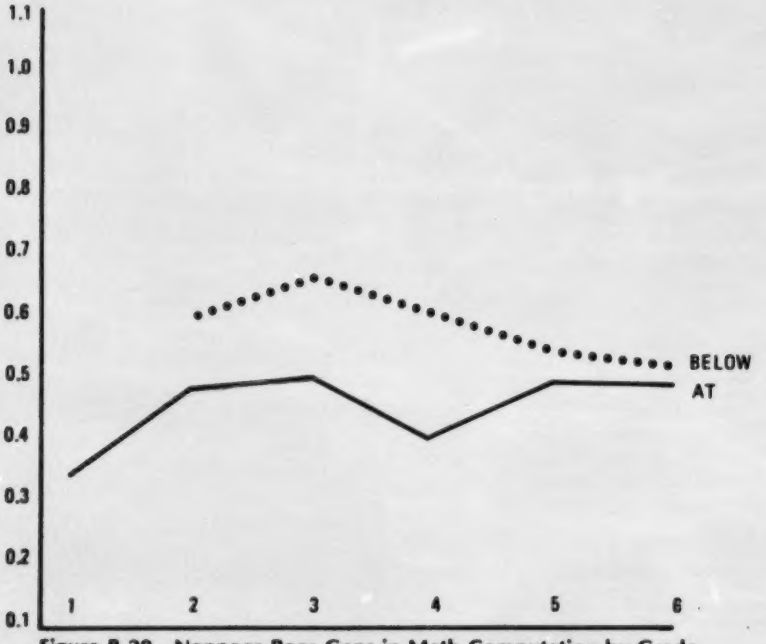

Figure B-20 Nonpoor-Poor Gaps in Math Computation by Grade

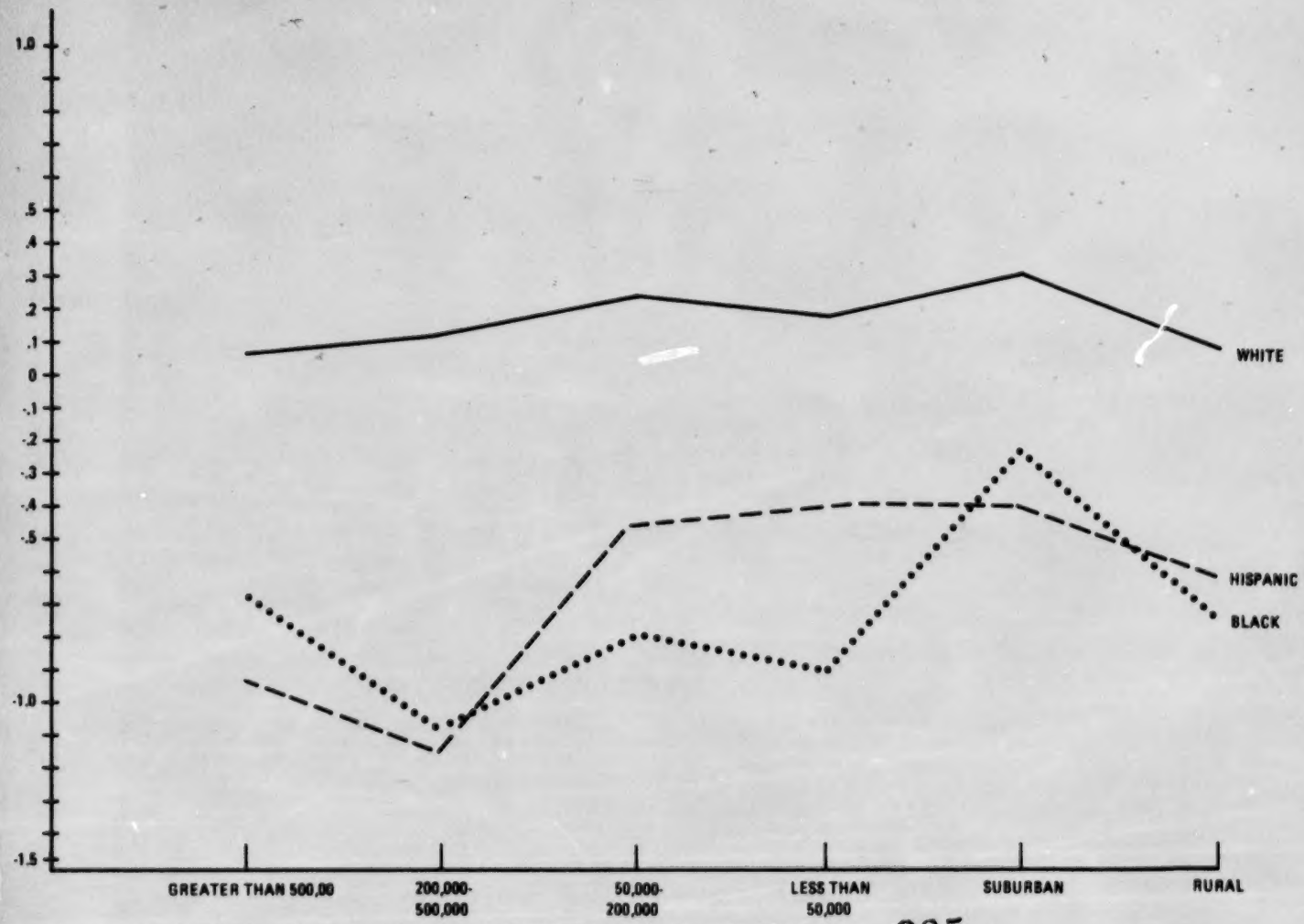

Figure B-21 Median Vocabulary (Below) Across Grades, by Ethnic Group and Urbanism

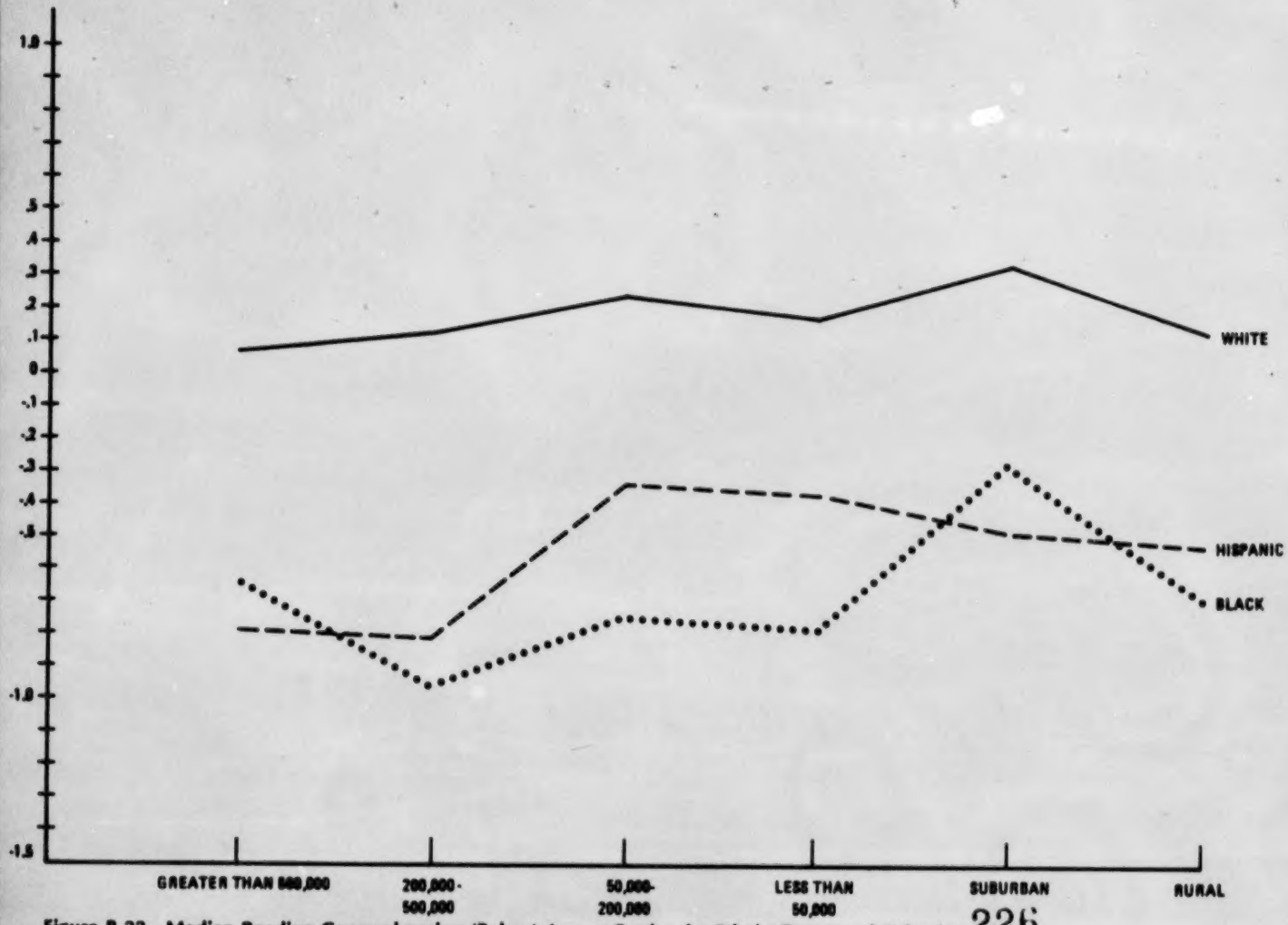

Figure B-22 Median Reading Comprehension (Below) Across Grades, by Ethnic Group and Urbanism

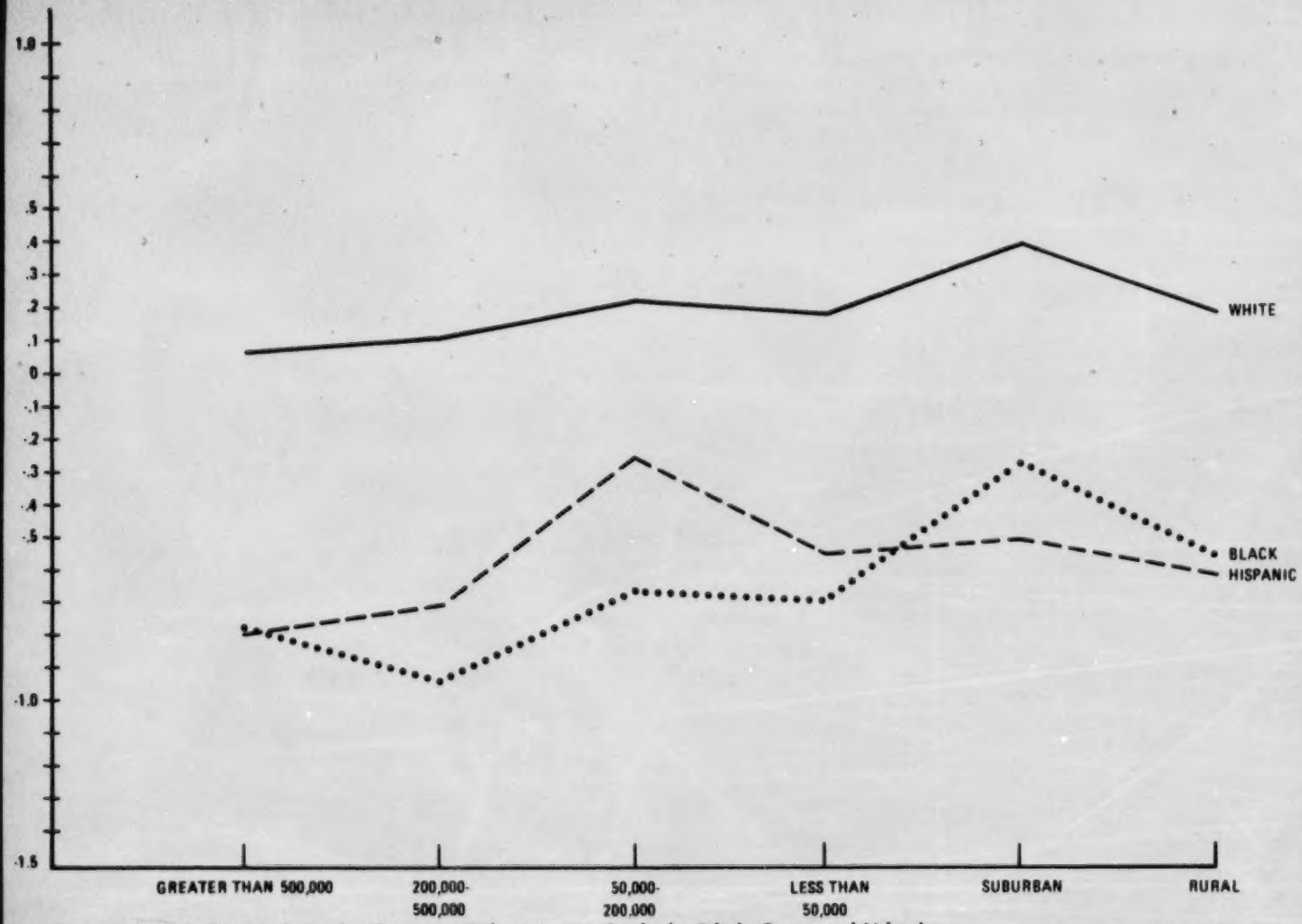

Figure B-23 Median Mathematics Concepts (Below) Across Grade, by Ethnic Group and Urbanism

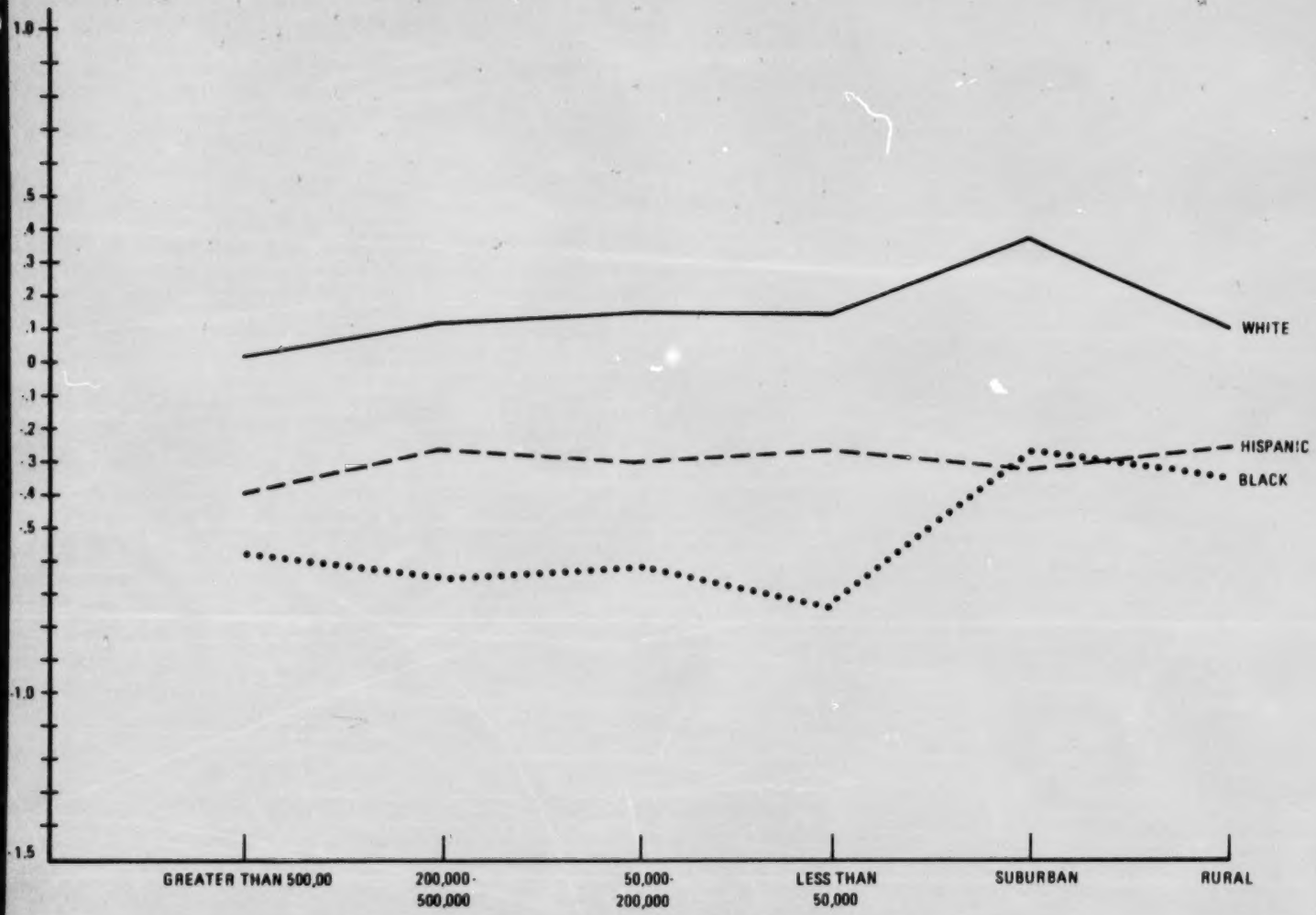

Figure B-24 Median Mathematics Computation (Below) Across Grades, by Ethnic Group and Urbanism

APPENDIX C.

APPROXIMATION OF STANDARD ERRORS FOR PART II

STANDARD ERRORS OF TABLE ENTRIES

Analysis-of-variance was applied to selected tables, and the highest-order interaction was used to estimate the error variance. A procedure based on these analyses is presented in Part 1 of this appendix. In Part 2, the derivation of the procedure is described.

Part 1: A Computational Procedure for Estimating Standard Errors

The standard error of the mean achievement for any given group may be estimated as

$$\sqrt{\frac{1.03}{pg}}$$

where p = the proportion in the given group for that grade
and g = the total weight for that grade.

For example, in Table B-1, the mean on the vocabulary below-grade-level test for first graders whose mothers were not high school graduates is reported as -.580. At the end of Table B-1, the proportion of first graders in this category is shown as .282, and the total weight for grade 1 is 2300.006 (Table B-1). Entering these numbers into the formula,

$$\text{S.E.} = \sqrt{\frac{1.03}{.282 \times 2300.006}} = .040$$

Thus, a 68 percent confidence interval for the below-grade level vocabulary mean for first grade children whose mothers are high school dropouts is $-.580 \pm .040$. The same standard error applies to the at-grade-level vocabulary test, the two reading comprehension tests, and the math tests for first grade children whose mothers are high school dropouts. To test the difference between the mean first-grade achievement for this group and for the second level of maternal education, the standard error of the difference between the means for these two groups may be computed as follows. First, the standard error for the high school graduate group is calculated:

$$\sqrt{\frac{1.03}{.606 \times 2300.006}} = .027$$

Then, the formula for the standard error of a difference is used:

$$SE_{1-2} = \sqrt{(SE_1)^2 + (SE_2)^2}$$

Entering the standard errors for the two groups,

$$SE_{1-2} = \sqrt{(.040)^2 + (.027)^2} = .048$$

A t test may now be calculated as the mean difference divided by its standard error:

$$t = \frac{.145 - (-.528)}{.048} = 14.02$$

The standard error estimate is based on more than thirty degrees of freedom, hence the normal approximation could be used to test the significance of this value.

The different groups at each grade level and across grade levels are distinct samples of pupils. Hence, standard errors computed in this way are appropriate for pairwise comparison across groups or grades.*

The same pupils took the eight different tests, thus results for the same group on different tests are positively correlated. However, these positive correlations between tests signal smaller standard errors of the differences between tests than between groups. Therefore, a conservative procedure is to estimate the standard errors of differences between tests in the same way as those for group differences.

Part 2: Derivation of the Computational Procedures

Standard errors were estimated for specific tests in selected tables by the application of the analysis of variance procedure described below. Results showed no systematic differences across tests or tables, hence the same procedure may be used to estimate standard errors for figures for any of the tests in any table.

In each analysis a set of the relative means included in the report was used as data, each weighted according to the size of the sample on which it was based. Weighted estimation is necessary whenever the probabilities of sample selection were not uniform. Weights are constructed so that population subgroups that are under- or over-represented in the sample enter into estimates of population values in inverse ratio to their probability of selection. Thus, the proportion of the total weights (i.e., sum of individual weights) for pupils in any grade or subdivision is an estimate of the proportion of the total grade 1-6 public school population in that grade or subdivision. Total weights for each grade are given at the end of each table. (Due to the exclusion of missing data, totals vary somewhat from table to table.) Weights for subdivisions within a grade may be calculated as the product of the group proportion and the total weight for the grade. These weights were defined such that the total weight across all grades was equal to the numbers of pupils in the sample, i.e., the average weight across all pupils in the sample was 1.00. Details of sample design and weight construction are given

* The clustering and stratification in the original sampling design are reflected in our estimation procedure.

in Sustaining Effects Study Technical Report #s 1 and 2, by Hoepfner, Zagorski, and Wellisch (1977) and by Breglio, Hinckley, and Beal (1978, Appendix B).

The mean square corresponding to the highest order interaction in each analysis was taken as an (upper bound) estimate of the error variance. In a set of estimates formed in this way for the eight tests, using Table B-13, hours television by race by grade, the ratio of the largest error mean square to the smallest was 1.73, corresponding to a 32 percent variation in standard errors across the eight tests. Patterns of differences were not replicated across other tables, however, and a test for heterogeneity failed to reject the null hypothesis of equal error variances for the eight tests. The value 1.03 in the formula presented above was the median error mean square across all the analyses performed.

References

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